

# Defense Nuclear Agency Alexandria, VA 22310-3398



**DNA-TR-93-169** 

# Johnston Atoll Plutonium Cleanup Project Contract Bridge Report

Charles L. Hellier Richard W. Doane TMA/Eberline 5635 Jefferson Street, NE P.O. Box 3874 Albuquerque, NM 87109-3874



The process of making

**April 1995** 

**Technical Report** 

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#### 13. ABSTRACT (Maximum 200 words)

This report continues the documentation of the operation of TMA/Eberline's Segmented Gate System technology for removing mixed plutonium and americium contamination at DNA's Johnston Atoll site. Contaminated feed is conveyed under arrays of radiation detectors coupled with sophisticated computer software developed by Eberline Instrument Corporation. Segmented gates (chutes) on pneumatically-driven pistons move forward when contamination is detected to remove only the contaminated portion from the main flow of feed material. Only about one pint of contaminant is removed during each diversion event. At the JA site, a 98% volume reduction has been achieved, with the remediated soil cleaned to DNA's criteria for release for unrestricted use of 500 Bq/kg total transuranic alpha contamination and no "hot" particles of greater than 5000 Becquerrels. The low level waste concentrate is expected to be packaged for shipment to an approved defense waste disposal site.

14. SUBJECT TERMS			15. NUMBER OF PAGES
Radwaste Minimization		utonium Waste	194
Radioactive Waste Managem	10110	ansuranic Remediation	16. PRICE CODE
Radiological Remediation Te	echnology		
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# CONVERSION TABLE

Conversion factors for U.S. Customary to metric (SI) units of measurement.

mo art	BY <	DIVID
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angstrom	1.000 000 X E -10	meters (m)
atmosphere (normal)	1.013 25 X E +2	kilo pascal (kPa)
bar	1.000 000 X E +2	kilo pascal (kPa)
barn	1.000 000 X E -28	meter <sup>2</sup> (m <sup>2</sup> )
British thermal unit (thermochemical)	1.054 350 X E +3	joule (J)
calorie (thermochemical)	4.184 000	joule (J)
cal (thermochemical/cm²	4.184 000 X E -2	mega joule/m² (MJ/m²)
curie	3.700 000 X E +1	* giga becquerel (GBq)
degree (angle)	1.745 329 X E -2	radian (rad)
degree Fahrenheit	$t_{K} = (t^{\circ}f + 459.67)/1.8$	degree kelvin (K)
electron volt	1.602 19 X E -19	joule (J)
erg	1.000 000 X E -7	joule (J)
erg/second	1.000 000 X E -7	watt (W)
foot	3.048 000 X E -1	meter (m)
foot-pound-force	1.355 818	joule (J)
gallon (U.S. liquid)	3.785 412 X E -3	meter <sup>3</sup> (m <sup>3</sup> )
inch	2.540 000 X E -2	meter (m)
jerk	1.00 000 X E +9	joule (J)
joule/kilogram (J/kg) radiation dose		
absorbed	1.000 000	Gray (Gy)
kilotons	4.183	terajoules
kip (10000 lbf)	4.448 222 X E +3	newton (N)
kip/inch² (ksi)	6.894 757 X E +3	kilo pascal (kPa)
ktap	1.000 000 X E +2	newton-second/m <sup>2</sup> (N-s/m <sup>2</sup> )
micron	1.000 000 X E -6	meter (m)
mil	2.540 000 X E -5	meter (m)
mile (international)	1.609 344 X E +3	meter (m)
ounce	2.834 952 X E -2	kilogram (kg)
pound-force (lbs avoirdupois)	4.448 222	newton (N)
pound-force inch	1.129 848 X E +2	newton-meter (N·m)
pound-force/inch	1.751 268 X E +2	newton/meter (N/m)
pound-force/foot <sup>2</sup>	4.788 026 X E -2	kilo pascal (kPa)
pound-force/inch <sup>2</sup> (psi)	6.894 757	kilo pascal (kPa)
pound-mass (lbm avoirdupois)	4.535 924 X E -1	kilogram (kg)
pound-mass-foot <sup>2</sup> (moment of inertia)	4.214 011 X E -2	kilogram-meter <sup>2</sup> (kg·m <sup>2</sup> )
pound-mass-foot <sup>3</sup>	1.601 846 X E +1	kilogram/meter <sup>2</sup> (kg-m <sup>3</sup> )
rad (radiation dose absorbed)	1.000 000 X E -2	** Gray (Gy)
roentgen	2.579 760 X E -4	coulomb/kilogram (C/kg)
shake	1.000 000 X E -8	second (s)
slug	1.459 390 X E +1	kilogram (kg)
torr (mm Hg, O°C)	1.333 22 X E -1	kilo pascal (kPa)
torr (mm rig, o o)	1	

<sup>\*</sup>The becquerel (Bq) is the SI unit of radioactivity: 1 Bq = 1 event/s. \*\*The Gray (GY) is the SI unit of absorbed radiation.

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#### SECTION 1

#### INTRODUCTION

# 1.1 GENERAL.

This summary report covers an extension of DNA Contract DNA001-90-C-0119 during the period from 1 June 1993 to 5 August 1993. This report presents the results of additional plant modifications and completion of construction of sorter conveyor systems 3 and 4, and the data pertaining to soil processing during the period.

# 1.2 TECHNICAL OBJECTIVE.

The primary objectives during the extension period were to complete construction of sorter conveyor systems 3 and 4 and to continue to process plutonium contaminated soil when modifications or construction was not being performed.

Prior to the start of the extension period, major construction of sorters 3 and 4 began in January 1993. Most of the conveyor systems had been fabricated and emplaced, and installation of the detector systems had been started, however, testing, calibration and electrical system check-outs had not been performed. Additionally, Version 1.11 of the JACC system software was to be installed and tested, remaining electronic components for detector systems were to be procured and installed, and belt weigh scales for both units 3 and 4 had to be installed and calibrated.

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## SECTION 2

#### EXTENSION PERIOD MAINTENANCE AND MODIFICATION OPERATIONS

## 2.1 PLANT MODIFICATIONS.

At the start of the extension period, soil production was halted as primary emphasis was devoted to completion of units 3 and 4 and plant maintenance.

The majority of the on-island TMA/E staff went on rotation during the period 24 May 1993 to 10 June 1993. During the period 7 to 10 June, TMA\E staff consisted of Mr. Bob Dakin, electrical engineer, Mr. Jim Woods and Mr. Ken Murphy, electronics technicians, and Mr. Dave Lawrence, health physics technician.

During the week of 20 June 1993, JACC version 1.11 software was installed on units 1, 2 and 4. Particle and distributed efficiencies were calculated and completed. Unit 3 was not on-line due to shortages of detector electronics boards and a master controller board.

Two belt weigh scales were installed on units 3 and 4 and the hardware and wiring for a third scale was installed should a convertor for diverted soil be installed. Replacement parts for the weigh scales' electronics had to be secured from the manufacturer, and the scales were calibrated, tested and placed in an operational status. Additionally, the mass flow meter was returned to the factory for repairs and subsequently installed and calibrated.

The segmented gates on units 3 and 4 operate exactly opposite than those on units 1 and 2, in that the gates on units 3 and 4 remain extended during operation and retract to trap the hot particle. This mode of operation caused excessive "splatter" of soil when hitting the gates and engineering changes were made to reduce excessive dust and soil bouncing off the gates. This consisted of installing belt wiper material behind the gates which reduced the dust and soil bounce off the gates.

During the week ending 1 August 1993, modifications and construction was completed on units 3 and 4. Minor modifications to dust misting systems and installation of grizzly conveyor covers remain to be accomplished pending receipt of on-order materials and parts.

#### 2.2 PLANT MAINTENANCE.

In addition to modifications to units 3 and 4, corrosion control and scheduled maintenance were performed on units 1 and 2. Units 1 and 2 grizzly feed belt was damaged and had to be replaced and cracks in the frame were repaired and welded. Other maintenance and repairs were performed to units 1 and 2 as follows:

- a) Installed new grizzly belt skirting and performed adjustments.
- b) Adjusted the screen belt and screen belt skirting.
- c) Installed required weights on vibrating screen shaft.
- d) Adjusted tail pulley skirting on sorter feed.
- e) Cleaned and lubricated complete system.
- f) Adjusted skirting on sorter 1 and 2.
- g) Repaired abrasions and holes on unit 2 belt.
- h) Adjusted skirting and tail pulley on clean belt and day bin.
- i) Installed water misting system on clean stacker.

#### SECTION 3

#### SOIL PROCESSING OPERATIONS

#### 3.1 GENERAL.

Soil production continued during the extension period when construction and modifications to units 3 and 4 were halted. Primary production continued with units 1 and 2 and limited production was conducted on unit 4 due to construction.

#### 3.2 PLANT PRODUCTION.

Soil processing was accomplished on 30 days during the extension period. Units 1 and 2 processed soil on a total of 29 days, and unit 4 processed soil on 2 days. Unit 3 did not process soil during this period due to shortage of a master control board and detector boards in it's detector box. Figure 3-1, JA SOIL CLEANUP PLANT LOG OVERALL SUMMARY REPORT-COMBINED SORTERS, depicts the daily processed mass in metric tons, cumulative production, weight reduction, and time utilization during the extension period.

Cumulative production during the extension period totaled 5,321 metric tons (Clean + Diverted). Clean soil produced totaled 5,291 metric tons and diverted soil total was 29.44 metric tons.

Weight reduction during the 30 days of processing was 99.5%. The range was from 97.1 to 99.1.

The primary objective during the extension period was to complete construction on units 3 and 4 and production was second. In view of the construction activities by TMA/E, time utilization as it pertains to soil production was an excellent average of 77.4% production rate. Non-availability time as it pertains to production was primarily due to required plant modifications.

Table 3-1. JA soil cleanup plant log overall summary report-combined sorters.

	Date			21-Jun	22-Jun	23-Jun	54-Jun	25-Jun	28-Jun	29-Jun	30-Jun	105-50	03-Jul	)nr-50	10F-90	12-Jul	13-Jul	14-301	15-300	16-30	19-30(	20-Jul	21-Jul	22-Jul	23-Jul	24-301	26-Jul	27- Jul	28-Jul	29- Jul	30-Jul	31-Jul	02-Aug	25-Aug	26-Aug	27-Aug	28-Aug	30-Aug
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	ج چ	(tou)		4	15	13	43	2	29	8	\$	76	ጵ	103	2	103	2	29	85	87	2	29	25	8	9	47	9	3	ĸ	2	87	31	2	65	2	22	19	ĸ
	NS8	(tou)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	o	0	0	0	0	Ø	0	0
,		(tou)		0	0	0	0	0	.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Ο.	0	Ö	0	0	0	0	0
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JA soil cleanup plant log overall summary report-combined sorters (Continued). Table 3-1.

Date			31-Aug	01-Sep	03-Sep	04-Sep	07-Sep	08-Sep	09-Sep	10-Sep	11-Sep	13-Sep	14-Sep	15-Sep	16-Sep	17-Sep	18-Sep	20-Sep	21-Sep	22-Sep	23-Sep	54-Sep	25-Sep	27-Sep	28-Sep	29-Sep	30-Sep	01-0ct	02-0ct	04-0et	TOTAL	DAY /WK AVG	53 NUMB DAYS/WKS
<b>&gt;</b> -	NS2	(tou)				265					744						1161						10%						1193		30.959	584	53
VEEKLY	÷ ±	(ton)				826					1592						2420						2299						2422		36.611	169	53
A/L	Chr.)		12.5	12.3	9.1	8.8	7.6	11.9	12.2	11.1	6.7	11.7	11.8	11.6	11.8	11.7	6.5	10.7	11.3	11.4	11.6	8.9	8.9	12.0	11.5	12.0	11.7	12.0	7.5	12.0	2, 131	9.7	219
Š	8		<b>58</b>	33	0	0	0	&	88	5	1	2	5	7	7	\$	\$	4	2	4	<b>6</b> 1	5	22	£	ສ	57	54	\$2	\$2	22		\$2	214
H+C-WS2	(ton)		7	7,	2	25	35	202	214	213	127	528	219	23,	20	222	115	<b>%</b>	556	223	225	154	ŭ	233	197	526	218	221	134	229	84		228
±	(ton)		236	223	80	25	26	421	439	410	555	436	077	434	436	438	236	389	419	419	435	321	316	435	807	432	727	747	566	450	17 041		232
8	(ton)		<b>.</b>	102	0	0	0	2	*	30	12	47	33	25	24	53	28	37	45	45	8	38	07	8	2	8	69	4.	77	61	975	1000	218
MS8	(tou)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	•	•	>	23
VS7			0	0	0	0	O	0	Ö	0	0	0	0	0	.0		.0	0	0	0	0	0	0	0	0	0	0	0	0	0	•	•	63
456	(tou)		0	0	24	46	82	211	221	24	Ξ	224	221	222	224	217	119	186	500	202	220	151	153	216	15	211	181	219	129	221		ĝ,	63
WSS			0	0	57	78	ä	210	220	25	110	227	225	222	226	221	121	161	212	207	220	152	154	219	180	202	187	218	131	219		4,528	63
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# APPENDIX

# JA SOIL CLEANUP PLANT LOG SUMMARIES

SORTER 1 21-Jun-93				
AVERAGE BACKGROUND COUNT RATE	0.73 ± 0	.04 c/sec		
SORTER SOIL DENSITY	1.35 tons/m³			
GROUND SOIL DENSITY	1.65 tons/m³			
		CONTAMINATED	CLEAN	
MASS TOTAL		0.28 tons	120.4 tons	
MAXIMUM/SORT		4.7 kg	62.9 kg	
MINIHUM/SORT		0.8 kg	58.2 kg	
WEIGHT RECOVERY OR VOLUME RECOVE	RÝ			99.8%
EQUIVALENT SOIL-IN-GROUND		0.22 yd <sup>3</sup>	95.5 yd³	95.7 yd <sup>1</sup> /day
THE TOTAL STREET	ATEN			
PARTICLE ACTIVITY (MAXIMUM ESTIM	RIEJ	4,983 kBq		
TOTAL		597 kBq		
MAXIMUM/SORT		3.1 kBq		
MINIMUM/SORT		311 104		
DISPERSED + PARTICLE (REALISTIC	ESTIMATE) ACTIVITY	1,657 kBq	(4,087)kBq	
MAXIMUM/SORT	•	281 kBq	8 kBq	
MINIMUM/SORT		0 Bq	-18 kBq	
SPECIFIC ACTIVITY		5,984 Bq/kg	(34)Bq/ks	]
WORK HISTORY				
WORK DAY START	04:45 AM	WORK DAY END	04:30 PM	
PLANT START-UP	04:45 AH	PLANT SHUT-DOWN	04:30 PM	
START SOIL PROCESSING	05:11 AM	END SOIL PROCESSING	03:55 PM	
LUNCH START	11:30 AH	LUNCH PERIOD	0.0 hr	
WORK HOURS		11.8 hr		
AVAILABLE HOURS		11.8 hr		
	OURS (total 20-sec records)	10.66 hr		
DOWN-TIME		1.09 hr		
TOTAL SYSTEM PAU	SE	0.09 hr		
NONAVAILABLE HOU	RS	0.0 hr		
START-UP		0.44 hr		
SHUT-DOWN		0.57 hr		
PLANT PERFORMANO	E	90.7%		
PRODUCTIVITY		90.7%		
TOTAL SOIL PROCESSING RECORDS (2	-SEC and 20-SEC)	2,176		
NONPROCESS RECORDS (Test, calibr		5		
20-SEC PROCESS RECORDS	<del>-</del>	1,919		
TOTAL SORT		0 MD>0 & MND=0		
NO SORT		1,732 AD=0 & HD=0 8	MND>0	
SOME SORT		187 AD>0&0 <md<mn< td=""><td>xsm0NM&gt;0NM&amp;xsm0</td><td></td></md<mn<>	xsm0NM>0NM&xsm0	
UNEXPLAINED RECO	RDS	0		
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AD=0	0 CM &		TIME	TIME
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ACT_P <5 kBq	47 18.3%		13:07:52	

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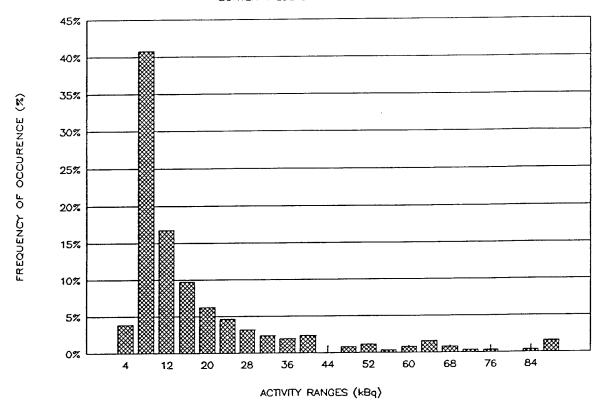
2-	-SEC CO	UNT PERIODS				19,190				
		2-SEC RECORD	S WITH S	ORTS		257	(ACT_P >0 kBq)			
		2-SEC RECORD	S WITH P	OSITIVES	IN >1 DE	TECTOR				
		2	DETECTO	RS	61		91.0%			
		3	DETECTO	RS	6		9.0%			
		4	DETECTO	RS	0		0.0%			
		5	DETECTO	RS	0		0.0%			
		6	DETECTO	RS	0		0.0%			
		7	DETECTO	RS	0		0.0%			
		8	DETECTO	RS	0		0.0%			
		τ	OTAL			67				
		NET 2-SEC RE	CORDS WI	TH SORTS		190				
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1-GATE SO	ORTS	131	ACT_ND	NUMBER	SPEC_A		ACT_P	SORT	FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)		(Bq)	(#)		(kBq)
1	0	0.0%	-14000	1	-223		4000	10	3.9%	4
2	17	13.0%	-12000	8	-191		8000	105	40.9%	8
3	20	15.3%	-10000	5	-159		12000	43	16.7%	12
4	23	17.6%	-8000	23	-127		16000	25	9.7%	16
5	31	23.7%	-6000	124	-95		20000	16	6.2%	20
6	17	13.0%	-4000	320	-64		24000	12	4.7%	24
7	20	15.3%	-2000	517	-32		28000	8	3.1%	28
8	3	2.3%	0	489	0		32000	6	2.3%	32
TOTAL	131		2000	297	32		36000	5	1.9%	36
			4000	107	64		40000	6	2.3%	40
2-GATE SO	ORTS	126	6000	27	95		44000	0	0.0%	44
DETECTR	SORTS	FREQ%	8000	5	127		48000	2	0.8%	48
8			10000	1	159		52000	3	1.2%	52
9	7	5.6%	12000	0	191		56000	1	0.4%	56
10	14	11.1%	14000	0	223		60000	2	0.8%	60
11	22	17.5%	16000	0	254		64000	4	1.6%	64
12	29	23.0%	18000	0	286		68000	2	0.8%	68
13	23	18.3%	20000	0	318		72000	1	0.4%	72
14	18	14.3%	22000	0	350		76000	1	0.4%	76
15	13	10.3%	24000	0	382		80000	0	0.0%	80
TOTAL	126		26000	0	413		84000	1	0.4%	84
			>28000	0	0		>84000	4	1.6%	>84
			TOTAL	1924			TOTAL	257		
SUMMARY T	TOTALS									
		ICLE EVENTS	261		SORTS BY	ONE GA	ATE ONLY	131		
		TICLE EVENTS	87		SORTS BY			126		
		TED EVENTS	0							
			•							

# REC CODE EXPLANATION

- 1.00 Source check (Soil on belt)
- 2.00 Empty belt
- 3.00 Test (No process soil)

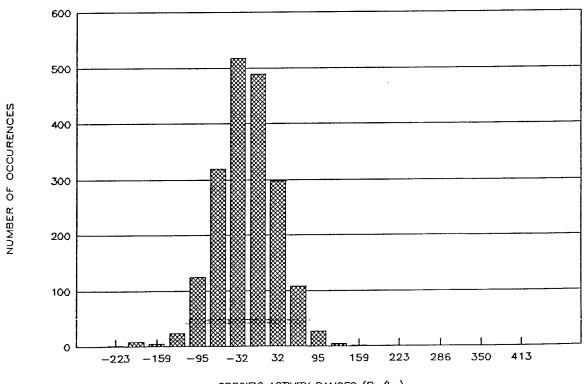
# JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 1 LOG DATA FOR 21-Jun-93



# CLEAN SOIL SPECIFIC ACTIVITY

SORTER 1 LOG DATA FOR 21-Jun-93



SORTER 2 21-Jun-93				
AVERAGE BACKGROUND COUNT RATE	0.80 ± 0.	.02 c/sec		
SORTER SOIL DENSITY	1.35 tons/m <sup>3</sup>			
GROUND SOIL DENSITY	1.65 tons/m³			
		CONTAMINATED	CLEAN	
MASS TOTAL		0.88 tons	107.7 tons	
MAXIMUM/SORT		66 kg	62.9 kg	
MINIMUM/SORT		0.8 kg	55 kg	
				99.2%
WEIGHT RECOVERY OR VOLUME RECOVERY		0.70	85.4 yd³	86.1 yd <sup>3</sup> /day
EQUIVALENT SOIL-IN-GROUND		0.70 yd <sup>3</sup>	65.4 ya	00:1 /0 /00/
PARTICLE ACTIVITY (MAXIMUM ESTIMAT	E)			
TOTAL	-•	13,366 kBq		
MAXIMUM/SORT		3,952 kBq		
MINIMUM/SORT		3.4 kBq		
DISPERSED + PARTICLE (REALISTIC ES	TIMATE) ACTIVITY	4,656 kBq	8,211 kBq	
MAXIMUM/SORT		2508 kBq	17 kBq	
MINIMUM/SORT \		-208 Bq	-15 kBq	
SPECIFIC ACTIVITY		5,274 Bq/kg	76 Bq/kg	
WORK HISTORY				
WORK DAY START	04:45 AM	WORK DAY END	04:30 PM	
PLANT START-UP	04:45 AM	PLANT SHUT-DOWN	04:30 PM	
START SOIL PROCESSING	12:00 AM 0510	END SOIL PROCESSING	04:00 PM	
LUNCH START	11:30 AM	LUNCH PERIOD	0.0 hr	
		11.8 hr		
WORK HOURS		11.8 hr		
AVAILABLE HOURS	no (4.4.1 20 and namedo)	9.59 hr		
	RS (total 20-sec records)	2.16 hr		
DOWN-TIME		6.45 hr	10.16)	
TOTAL SYSTEM PAUSE		0.45 M	(0.16) (0,41)	
NONAVAILABLE HOURS START-UP		4.74 hr	(0,41)	
SHUT-DOWN		0.50 hr	,	
PLANT PERFORMANCE		81.6%		
PRODUCTIVITY		81.6%		
TOTAL SOIL PROCESSING RECORDS (2-S		1,927 0		
NONPROCESS RECORDS (Test, calibrat	ion, etc)	1,726		
20-SEC PROCESS RECORDS		6 MD>0 & MND=0	1	
TOTAL SORT		1,274 AD=0 & MD=0		
NO SORT		445 AD>0&0 <md<m< td=""><td></td><td></td></md<m<>		
SOME SORT	c	1	TOMORIUS TIMEMON	
UNEXPLAINED RECORDS		•	UNEXPLAIN	PAUSE
0 <ad<1kbq &="" md="">0</ad<1kbq>	7 MD 3		TIME	TIME
AD=0 & 1			00:00:36	00:00
ACT P <5 kBg	MU 2 34 16.9%		01:45:59	02:20
ACT_P <5 kBq	J4 10.7/6			

File S2JA0621.WR1

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11

1

17,260

05:13:33

03:50

05:34 07:19 07:21 80:80 08:10

2	- SEC COL	JNI PERIODS				17,200				·	,,.,,,,,
		2-SEC RECORD	S WITH S	ORTS		201	(ACT_P	>0 kBq)		0	5:21:33
		2-SEC RECORD	S WITH P	OSITIVES	IN >1 DE	TECTOR				0	5:47:53
		2	DETECTO	RS	36		70.6%			0	5:51:13
		3	DETECTO	RS	8		15.7%			0	7:17:53
		4	DETECTO	RS	4		7.8%			0	7:20:52
		5	DETECTO	RS	3		5.9%			0	8:08:32
		6	DETECTO	RS	0		0.0%			0	8:10:25
		7	DETECTO	RS	0		0.0%			1	1:49:03
		8	DETECTO	RS	0		0.0%			1	5:59:23
		τ	OTAL			51					
		NET 2-SEC RE	CORDS WI	TH SORTS		150					
		2-SEC PERIOD	S WITH N	O SORTS		17,110					
		AVG TIME BET	WEEN 2-S	EC SORTS		230.1	sec				
1-GATE S	ORTS	101	ACT_ND	NUMBER	SPEC_A			ACT_P	SORT	FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)			(Bq)	(#)		(kBq)
1	6	5.9%	-14000	1	-223			4000	9	4.5%	4
2	14	13.9%	-12000	0	-191			8000	69	34.3%	8
3	24	23.8%	-10000	0	-159			12000	30	14.9%	12
4	24	23.8%	-8000	3	-127			16000	21	10.4%	16
5	20	19.8%	-6000	17	-95			20000	13	6.5%	20
6	5	5.0%	-4000	60	-64			24000	8	4.0%	24
7	6	5.9%	-2000	81	-32			28000	7		28
8	2	2.0%	0	125	0			<b>32000</b>	4	2.0%	32
TOTAL	101		2000	135	32		3	36000	7	3.5%	36
			4000	218	64			10000	4	2.0%	40
2-GATE SO	ORTS	100	6000	310	95			44000	1	0.5%	44
DETECTR	SORTS	FREQ%	8000	366	127			0008	0	0.0%	48
8			10000	239	159			2000	0	0.0%	52
9	9	9.0%	12000	125	191			6000	3	1.5%	56
10	15	15.0%	14000	36	223			50000	1	0.5%	60
11	22	22.0%	16000	8	254			\$4000	3	1.5%	64
12	19	19.0%	18000	2	286			00088	3	1.5%	68 ~~
13	22	22.0%	20000	0	318			72000	1	0.5%	72
14	9	9.0%	22000	0	350			76000	2	1.0%	76
15	4	4.0%	24000	0	382			30000	0	0.0%	80
TOTAL	100		26000	0	413			34000	1	0.5%	84
			>28000	0	0			34000	14	7.0%	>84
			TOTAL	1726			1	OTAL	201		
SUMMARY 1	TOTALS										
		CLE EVENTS	202		SORTS BY			ſ	101		
M	JLTIPART	ICLE EVENTS	408		SORTS BY	TWO GA	TES		100		

#### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

498

2.00 Empty belt

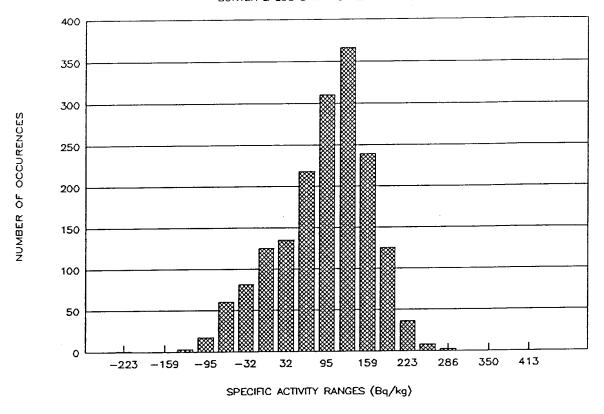
DISTRIBUTED EVENTS

2-SEC COUNT PERIODS

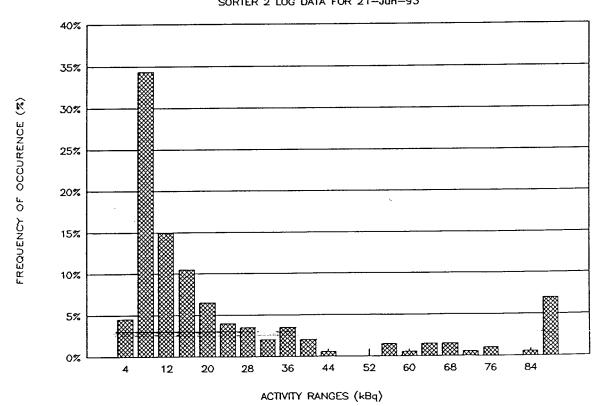
3.00 Test (No process soil)

# CLEAN SOIL SPECIFIC ACTIVITY

SORTER 2 LOG DATA FOR 21-Jun-93



# JA SOIL CLEANUP PLANT HOT PARTICLES SORTER 2 LOG DATA FOR 21-Jun-93



SORTER 1 22-Jun-93 0.72 ± 0.04 c/sec AVERAGE BACKGROUND COUNT RATE 1.35 tons/m3 SORTER SOIL DENSITY 1.65 tons/m3 GROUND SOIL DENSITY CONTAMINATED CLEAN 113.3 tons 0.24 tons MASS TOTAL 62.9 kg 66 kg MAXIMUM/SORT 58.9 kg MINIMUM/SORT 0.8 kg WEIGHT RECOVERY OR VOLUME RECOVERY 99.8% 90.0 yd3/day 0.19 yd3 89.8 yd3 EQUIVALENT SOIL-IN-GROUND PARTICLE ACTIVITY (MAXIMUM ESTIMATE) 3,134 kBq 114 kBq MAXIMUM/SORT MINIMUM/SORT 3.1 kBq 1,049 kBq 2,510 kBq DISPERSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY 13 kBq 74 kBq MAXIMUM/SORT 0 Bq -11 kBq MINIMUM/SORT 4,395 Bq/kg 22 Bq/kg SPECIFIC ACTIVITY WORK HISTORY WORK DAY START 05:00 AM WORK DAY END 04:30 PM PLANT SHUT-DOWN 04:30 PM 05:00 AM PLANT START-UP END SOIL PROCESSING 04:05 PM START SOIL PROCESSING 05:37 AM 0.0 hr LUNCH PERIOD LUNCH START 11:30 AM WORK HOURS 11.5 hr 11.5 hr AVAILABLE HOURS ACTUAL PROCESS HOURS (total 20-sec records) 10.03 hr 1.47 hr DOWN-TIME TOTAL SYSTEM PAUSE 0.46 hr NONAVAILABLE HOURS 0.0 hr 0.63 hr START-UP 0.40 hr SHUT-DOWN 87.2% PLANT PERFORMANCE 87.2% PRODUCTIVITY TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC) 1,974 NONPROCESS RECORDS (Test, calibration, etc) 1,805 20-SEC PROCESS RECORDS 1 MD>0 & MND=0 TOTAL SORT 1,692 AD=0 & MD=0 & MND>0 NO SORT 112 AD>0&0<MD<MNDmax&MND<MNDmax SOME SORT

Printed on 06/23/93 at 06:42:09 AM

PAUSE

TIME

10:01 10:27

UNEXPLAIN

TIME

06:30:08

UNEXPLAINED RECORDS

AD=0 & MD

AD<0 & MD

0

0

32

18.9%

0<AD<1kBa & MD>0

ACT P <5 kBq

0

2	-SEC CO	UNT PERIODS				18,050				
		2-SEC RECORD	S WITH S	ORTS		169	(ACT_P	>0 k	Bq)	
		2-SEC RECORD	S WITH P	OSITIVES	IN >1 DE	TECTOR				
		2	DETECTO	RS	38		90.5%			
		3	DETECTO	RS	3		7.1%			
		4	DETECTO	RS	1		2.4%			
		5	DETECTO	RS	0		0.0%			
		6	DETECTO	RS	0		0.0%			
		7	DETECTO	RS	0		0.0%			
		8	DETECTO	RS	0		0.0%			
		T	OTAL			42				
		NET 2-SEC RE	CORDS WI	TH SORTS		127				
		2-SEC PERIOD	S WITH N	O SORTS		17,923				
		AVG TIME BET	WEEN 2-SI	EC SORTS		284.3	sec			
1-GATE SO	ORTS	85	ACT_ND	NUMBER	SPEC_A			ACT_P	SORT	FREQ%
DETECTR	SORTS	FREQ%	_ (Bq)	(#)	(Bq/kg)			(Bq)	(#)	
1	0	0.0%	-14000	1	-223			4000	8	4.7%
2	8	9.4%	-12000	1	-191			8000	58	34.3%
3	10	11.8%	-10000	1	-159			12000	32	18.9%
4	21	24.7%	-8000	9	-127			16000	12	7.1%
5	19	22.4%	-6000	69	-95			20000	13	7.7%
6	15	17.6%	-4000	137	-64			24000	6	3.6%

SUMMARY TOTALS

2-GATE SORTS

TOTAL

TOTAL

DETECTR

SORTS

11.8%

2.4%

2.4%

9.5%

16.7%

23.8%

25.0%

17.9%

4.8%

FREQ%

-2000

>28000

TOTAL

-32

HOT PARTICLE EVENTS	168	SORTS BY ONE GATE ONLY	85
MULTIPARTICLE EVENTS	49	SORTS BY TWO GATES	84
DISTRIBUTED EVENTS	83		

#### REC CODE EXPLANATION

- 1.00 Source check (Soil on belt)
- 2.00 Empty belt
- 3.00 Test (No process soil)

File S1JA0622.WR1

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ACT\_P

(kBq)

>84

4.1%

3.6%

1.8%

1.2%

2.4%

1.2%

0.6%

1.2%

0.0%

1.2%

1.2%

1.8%

1.2%

0.6%

1.2%

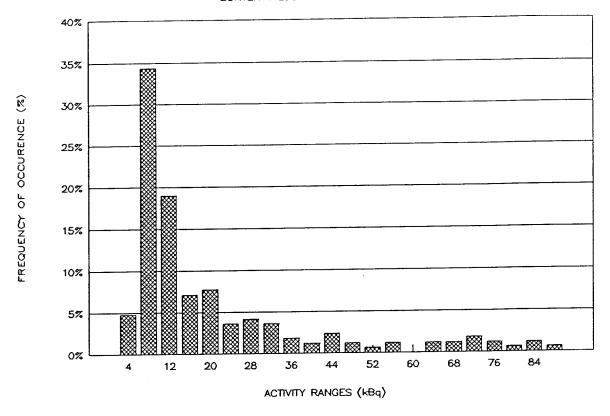
0.6%

>84000

TOTAL

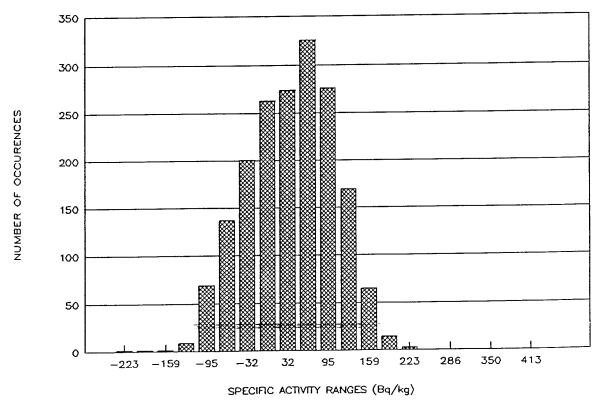
# JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 1 LOG DATA FOR 22-Jun-93



# CLEAN SOIL SPECIFIC ACTIVITY

SORTER 1 LOG DATA FOR 22-Jun-93



SORTER 2 22-Jun-93							
AVERAGE BACKGROUND COUNT RATE		0.79 ±	0.03 c/sec				
SORTER SOIL DENSITY		1.35 tons/m	n³				
GROUND SOIL DENSITY		1.65 tons/m	n³				
			CONTAM	INATED	CLEAN		
MASS TOTAL			0.49	tons	109.5		
MAXIMUM/SORT			66	kg	62.9		
MINIMUM/SORT			0.8	kg	58.2	kg	
WEIGHT RECOVERY OR VOLUME RECOVER	RY						99.6%
EQUIVALENT SOIL-IN-GROUND			0.39	Aq <sub>2</sub>	86.8	Aq <sub>2</sub>	87.2 yd³/day
PARTICLE ACTIVITY (MAXIMUM ESTIMA	(TE)						
TOTAL	,		2,981	k8q			
MAXIMUM/SORT			165	kBq			
MINIMUM/SORT			3.8	kBq			
DISPERSED + PARTICLE (REALISTIC E	STIMATE) ACTIVI	TY	1,004	kBq	3,770	kBq	
MAXIMUM/SORT			<del>-</del>	kBq	23	kBq	
MINIMUM/SORT			0	8q	-11	kBq	
SPECIFIC ACTIVITY			2,029	Bq/kg	34	Bq/kg	
WORK HISTORY							
WORK DAY START	05:00 AM		WORK D	AY END	04:30 PM		
PLANT START-UP	05:00 AM		PLANT :	SHUT-DOWN	04:30 PM		
START SOIL PROCESSING	05:37 AM		END SO	IL PROCESSING	04:06 PM		
LUNCH START	11:30 AM		LUNCH	PERIOD	0.0	hr	
WORK HOURS				11.5 hr			
AVAILABLE HOURS				11.5 hr			
ACTUAL PROCESS HO	URS (total 20-s	ec records)		9.72 hr			
DOWN-TIME				1.78 hr			
TOTAL SYSTEM PAUS	Ε			0.80 hr			
NONAVAILABLE HOUR	S			0.0 hr			
START-UP				0.63 hr			
SHUT-DOWN				0.40 hr			
PLANT PERFORMANCE				84.5%			
PRODUCTIVITY				84.5%			
TOTAL SOIL PROCESSING RECORDS (2-	SEC and 20-SEC)			1,889			
NONPROCESS RECORDS (Test, calibra	tion, etc)			5			
20-SEC PROCESS RECORDS			1,749				
TOTAL SORT				0=0MM & 0<0M			
NO SORT			•	AD=0 & MD=0 &			
SOME SORT				AD>0&0 <md< td=""><td>max&amp;MND<mi< td=""><td>NDmax</td><td></td></mi<></td></md<>	max&MND <mi< td=""><td>NDmax</td><td></td></mi<>	NDmax	
UNEXPLAINED RECOR	DS		0				4405
0 <ad<1kbq &="" md="">0</ad<1kbq>	2				UNEXPLAII		PAUSE
AD=0 &					TIME		TIME
AD<0 &					10:37:04		10:01
ACT_P <5 kBq	20	14.3%	•		11:25:43		10:27

File S2JA0622.WR1

Printed on 06/23/93 at 06:58:56 AM

	2-SEC CC	OUNT PERIODS				17,490			1	11:32:14	10:29
		2-SEC RECOR	S WITH S	ORTS			(ACT_P >0 kB	<b>(</b> p	1	15:43:34	11:18
		2-SEC RECOR	S WITH P	OSITIVES	IN >1 D		_		1	16:05:54	11:20
			2 DETECTO	RS	31		93.9%				11:26
			3 DETECTO		2		6.1%				
			4 DETECTO		0		0.0%				
		9	DETECTO	RS	0		0.0%				
			S DETECTO		0		0.0%				
		7	7 DETECTO	RS	0		0.0%				
		ŧ	B DETECTO	RS	0		0.0%				
		1	TOTAL			33					
		NET 2-SEC RE	CORDS WI	TH SORTS		107					
		2-SEC PERIOD	S WITH N	O SORTS		17,383					
		AVG TIME BET	WEEN 2-S	EC SORTS		326.9	sec				
1-0475	SORTS	71	ACT NO	MINDED	SPEC A		ACT_P	SUBT	FREQ%	ACT_P	
DETECT			ACT_ND (Bq)		(Bq/kg)		(Bq)	(#)	INCUM	(kBq)	
DETECT	K SUKIS	FREGA	(bq)	(#)	(bq/kg)		(bq)	(#)		(kbq)	
1	1	1.4%	-14000	0	-223		4000	5	3.6%	4	
2	4	5.6%	-12000	1	-191		8000	56	40.0%	8	
3	9	12.7%	-10000	4	-159		12000	22	15.7%	12	
4	- 27	38.0%	-8000	38	-127		16000	9	6.4%	16	
5	15	21.1%	-6000	107	-95		20000	3	2.1%	20	
6	. 8	11.3%	-4000	194	-64		24000	2	1.4%	24	
7	7	9.9%	-2000	210	-32		28000	7	5.0%	28	
8	0	0.0%	0	170	0		32000	9	6.4%	32	
TOTAL	71		2000	108	32		36000	4	2.9%	36	
			4000	150	64		40000	2	1.4%	40	
2-GATE	SORTS	69	6000	247	95		44000	2	1.4%	44	
DETECT		FREQ%	8000	230	127		48000	3	2.1%	48	
8			10000	147	159		52000	0	0.0%	52	
9		2.9%	12000	76	191		56000	1	0.7%	56	
10		5.8%	14000	34	223		60000	1	0.7%	60	
11	16	23.2%	16000	18	254		64000	1	0.7%	64	
12	21	30.4%	18000	11	286		68000	2	1.4%	68	
13	15	21.7%	20000	7	318		72000	1	0.7%	72	
14	8	11.6%	22000	1	350		76000	3	2.1%	76	
15	3	4.3%	24000	1	382		80000	3	2.1%	80	
TOTAL	69		26000	0	413		84000	1	0.7%	84	
			>28000	0	0		>84000	3	2.1%	>84	
			TOTAL	1754			TOTAL	140			
SUMMARY	TOTALS										
		CLE EVENTS	146		SORTS BY			71			
		ICLE EVENTS	61		SORTS BY	IWO GA	IES	69			
	DISTRIBUT	ED EVENTS	415								

# REC CODE EXPLANATION

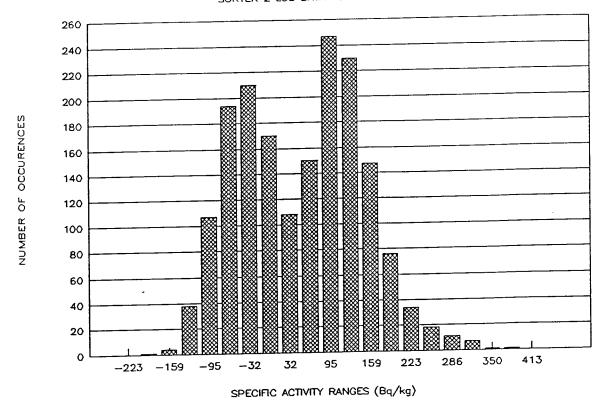
1.00 Source check (Soil on belt)

2.00 Empty belt

3.00 Test (No process soil)

# CLEAN SOIL SPECIFIC ACTIVITY

SORTER 2 LOG DATA FOR 22-Jun-93



# JA SOIL CLEANUP PLANT HOT PARTICLES SORTER 2 LOG DATA FOR 22-Jun-93

45% 40% 35% FREQUENCY OF OCCURENCE (%) 30% 25% 20% 15% 10% 5% 0% 84 60 68 76 52 44 36 12 20 28

SORTER 1 23	5-Jun-93									
AVERAGE BACKGROUND	COUNT RATE		0.72	±	0.04 c/	'sec				
SORTER SOIL DENSITY	1		1.3	tons/m	u <sub>2</sub>					
GROUND SOIL DENSITY	1		1.65	tons/m	n 3					
					CC	IMATAC	INATED	CLEAN		
MASS TOTAL							tons	113.3		
MAXIMUM/SORT	r					63.6		60.5	_	
MINIMUM/SORT	Г					8.0	kg	56.8	kg	
WEIGHT RECOVERY OR	VOLUME RECOVERY									99.7%
EQUIVALENT SOIL-IN-						0.25	yd³	89.8	Aq <sub>2</sub>	90.1 yd3/da
DARTICLE ACTIVITY	VANTHUM ESTIMATE									
PARTICLE ACTIVITY	(MAXIMUM ESITMATE)	,			2	2,966	k8a			
TOTAL	•				•	-	kBq			
MAXIMUM/SORT						3.1	-			
HIRITON/ SOR	•						<del>-</del>			
DISPERSED + PARTICI	LE (REALISTIC ESTI	MATE) ACTI	VITY		1	1,142	-	7,513		
MAXIMUM/SORT	ſ						kBq		kBq	
MINIMUM/SORT	r						₿q		kBq	
SPECIFIC ACT	LIVITA				3	3,561	Bq/kg	66	Bq/kg	
WORK HISTORY										
WORK DAY STA	ART	05:00 AM			WC	ORK DA	AY END	04:30 PM		
PLANT START	-UP	05:00 AM					SHUT-DOWN	04:30 PM		
START SOIL	PROCESSING	05:28 AM			_		IL PROCESSING			
LUNCH START		11:30 AM			LU	JNCH 1	PERIOD	0.0	pc	
wo	RK HOURS						11.5 hr			
AV	AILABLE HOURS						11.5 hr			
AC'	TUAL PROCESS HOURS	S (total 20	-sec r	ecords)	)		10.43 hr			
DO	W-TIME						1.07 հո			
10	TAL SYSTEM PAUSE						0.03 hr			
NO	NAVAILABLE HOURS						0.0 hr			
STA	ART-UP						0.48 hr			
SHI	JT-DOWN						0.56 hr			
PL	ANT PERFORMANCE						90.7%			
PRO	DOUCTIVITY						90.7%			
TOTAL SOIL PROCESS	ING RECORDS (2-SE	C and 20-SE	(C)				2,106			
NONPROCESS RECORDS							8			
20-SEC PROCE					1	1,878				
10	TAL SORT						MD>0 & MND=0			
NO	SORT				1	•	AD=0 & MD=0 8			
sor	ME SORT						AD>0&0 <md<< td=""><td>M&gt; ONM&amp;xem</td><td>NDmax</td><td></td></md<<>	M> ONM&xem	NDmax	
UNI	EXPLAINED RECORDS					0				
0<	AD<1kBq & MD>0	0						UNEXPLAI	N I	PAUSE
	AD=0 & M	0						TIME		TIME
	AD<0 & MI	0						06:18:55		06:16
	T_P <5 kBq									

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_		DEDIODE				18,780					
2.	- SEC CO	UNT PERIODS	.C. 111711 C	ODIC		•	CACT P	>0 kBq)			
		2-SEC RECORD 2-SEC RECORD			10 ×1 DI		(401_1	· o noq,			
					48	LILCION	94.1%				
			DETECTO		3		5.9%				
			DETECTO		0		0.0%				
			DETECTO		0		0.0%				
			DETECTO		0		0.0%				
			DETECTO		0		0.0%				
			DETECTO		0		0.0%				
			DETECTO	K2	U	51	0.0%				
			OTAL								
		NET 2-SEC RE				177					
		2-SEC PERIOD				18,603					
		AVG TIME BET	WEEN 2-S	EC SORTS		212.2	sec				
1-GATE SO	ORTS.	116	ACT ND	NUMBER	SPEC_A			ACT_P	SORT	FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)		(Bq/kg)			(Bq)	(#)		(kBq)
DETECTION	000		4- 14								
1	4	3.4%	-14000	0	-231			4000	12	5.3%	4
2	11	9.5%	-12000	0	-198			8000	112	49.1%	8
3	24	20.7%	-10000	0	-165			12000	45	19.7%	12
4	18	15.5%	-8000	3	-132			16000	17	7.5%	16
5	16	13.8%	-6000	3	-99			20000	10	4.4%	20
6	18	15.5%	-4000	6	-66			24000	3	1.3%	24
7	21	18.1%	-2000	30	-33			28000	3	1.3%	28
8	4	3.4%	0	131	0			32000	8	3.5%	32
TOTAL	116		2000	302	33			36000	1	0.4%	36
			4000	476	66			40000	0	0.0%	40
2-GATE SO	ORTS	112	6000	491	99			44000	1	0.4%	44
DETECTR	SORTS	FREQ%	8000	306	132			48000	0	0.0%	48
8			10000	110	165			52000	4	1.8%	52
9	10	8.9%	12000	21	198			56000	3	1.3%	56
10	17	15.2%	14000	4	231			60000	2	0.9%	60
11	28	25.0%	16000	3	264			64000	0	0.0%	64
12	13	11.6%	18000	0	298			68000	4	1.8%	68
13	19	17.0%	20000	0	331			72000	1	0.4%	72
14	14	12.5%	22000	0	364			76000	1	0.4%	76
15	11	9.8%	24000	0	397			80000	0	0.0%	80
TOTAL	112		26000	0	430			84000	1	0.4%	84
			>28000	0	0		>	84000	0	0.0%	>84
			TOTAL	1886				TOTAL	228		

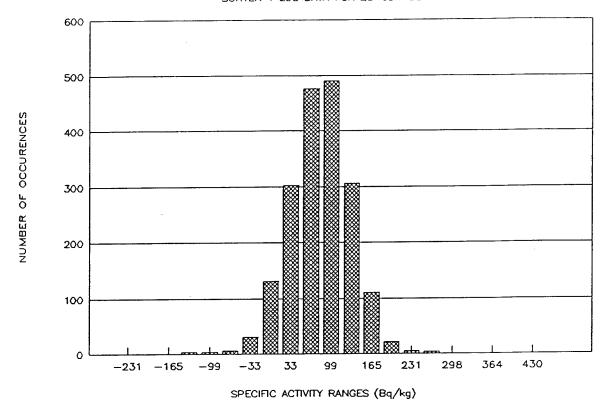
SUMMARY TOTALS SORTS BY ONE GATE ONLY 116 238 HOT PARTICLE EVENTS 112 97 SORTS BY TWO GATES MULTIPARTICLE EVENTS 83 DISTRIBUTED EVENTS

#### REC CODE EXPLANATION

- 1.00 Source check (Soil on belt)
- 2.00 Empty belt
- 3.00 Test (No process soil)

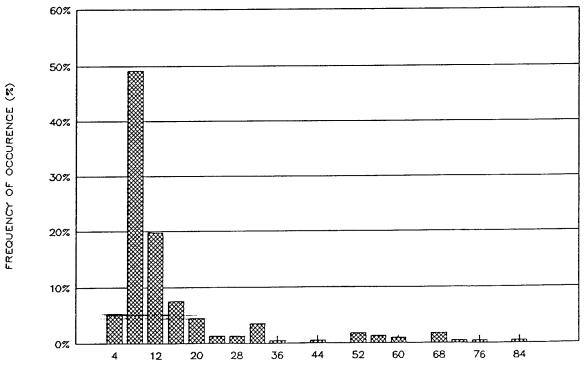
# CLEAN SOIL SPECIFIC ACTIVITY

SORTER 1 LOG DATA FOR 23-Jun-93



# JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 1 LOG DATA FOR 23-Jun-93



SORTER 2 23-Ju	ın-93							
AVERAGE BACKGROUND COL	UNT RATE	0.79	± 0	.03 c/sec				
SORTER SOIL DENSITY		1.3	tons/m³					
GROUND SOIL DENSITY		1.65	tons/m³					
				CONTAMI		CLEAN		
MASS TOTAL				0.26		113.4		
MAXIMUM/SORT				63.6		60.5		
MINIMUM/SORT				8.0	kg	56.8	kg	
WEIGHT RECOVERY OR VOL	LUME RECOVERY							99.8%
EQUIVALENT SOIL-IN-GRO				0.20	λq <sub>2</sub>	89.9	yd3	90.1 yd3/day
	CONTRACTO							
PARTICLE ACTIVITY (MA)	(IMOM ESTIMATE)			2,811	kBa			
TOTAL				•	kBq			
MAXIMUM/SORT				3.6	•			
MINIMUM/SORT					•			
	(REALISTIC ESTIMATE) ACTIV	/ITY		1,067	kBq	10,249	kBq	
	KENCISTIC ESTITATES NOTE				kBq	17	kBq	
MAXIMUM/SORT	•			-402	Bq	-7	kBq	
MINIMUM/SORT SPECIFIC ACTIV	ITY			4,161	Bq/kg	90	Bq/kg	
WORK HISTORY						<b></b>		
WORK DAY START	05:00 AM			WORK DA	Y END	04:30 PM		
PLANT START-UP	05:00 AM				HUT-DOWN	04:30 PM		
START SOIL PRO	CESSING 05:28 AM				L PROCESSING			
LUNCH START	11:30 AM			LUNCH P	PERIOD	0.0	nr	
WORK I	HOURS				11.5 hr			
AVAIL	ABLE HOURS				11.5 hr			
ACTUAL	L PROCESS HOURS (total 20-	-sec re	ecords)		10.43 hr			
DOWN-	TIME				1.07 hr			
TOTAL	SYSTEM PAUSE				0.03 hr			
VANON	AILABLE HOURS				0.0 hr			
START	-UP				0.48 hr			
SHUT-I	DOWN				0.56 hr			
PLANT	PERFORMANCE				90.7%			
PRODU	CTIVITY				90.7%			
TOTAL SOIL PROCESSING	RECORDS (2-SEC and 20-SEC	C)			2,049			
	est, calibration, etc)				8			
20-SEC PROCESS	RECORDS			1,878				
TOTAL	SORT				MD>0 & MND=0	. MID: 0		
NO SO	RT				AD=0 & MD=0 &		MOres	
SOME	SORT				AD>0&0 <md<< td=""><td>max&amp;MNU<m< td=""><td>XEIRUM</td><td></td></m<></td></md<<>	max&MNU <m< td=""><td>XEIRUM</td><td></td></m<>	XEIRUM	
	LAINED RECORDS			1		INICYOLAT	A1	PAUSE
0 <ad<< td=""><td>1kBq &amp; MD&gt;0 0</td><td></td><td></td><td></td><td></td><td>UNEXPLAI</td><td>п</td><td>TIME</td></ad<<>	1kBq & MD>0 0					UNEXPLAI	п	TIME
	AD=0 & MD 0					TIME 06:19:36		06:16
	AD<0 & MD 1	4	•			00113130	,	
ACT_P	29 ×5 kBq 29	17.0	<b>ک</b>					

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2-SEC COUNT PERIODS	18,780	
2-SEC RECORDS WITH SORTS	171	(ACT_P >0 kBq)
2-SEC RECORDS WITH POSITIVES	IN >1 DETECTOR	
2 DETECTORS	39	78.0%
3 DETECTORS	9	18.0%
4 DETECTORS	1	2.0%
5 DETECTORS	1	2.0%
6 DETECTORS	0	0.0%
7 DETECTORS	0	0.0%
8 DETECTORS	0	0.0%
TOTAL	50	
NET 2-SEC RECORDS WITH SORTS	121	
2-SEC PERIODS WITH NO SORTS	18,659	
AVG TIME BETWEEN 2-SEC SORTS	310.4	sec

1-GATE	SORTS	92	ACT ND	NUMBER	SPEC_A	ACT_P	SORT	FREQ%	ACT_P
DETECTR		FREQ%	(Bq)	(#)	(Bq/kg)	(pg)	(#)		(kBq)
1	2	2.2%	-14000	0	-231	4000	9	5.3%	4
2	14	15.2%	-12000	0	-198	8000	66	38.6%	8
3	18	19.6%	-10000	0	-165	12000	31	18.1%	12
4	14	15.2%	-8000	0	-132	16000	17	9.9%	16
5	18	19.6%	-6000	3	-99	20000	4	2.3%	20
6	16	17.4%	-4000	6	-66	24000	13	7.6%	24
7	9	9.8%	-2000	3	-33	28000	2	1.2%	28
8	1	1.1%	0	54	0	32000	4	2.3%	32
TOTAL	92		2000	148	33	36000	3	1.8%	36
			4000	370	66	40000	4	2.3%	40
2-GATE	SORTS	79	6000	512	99	44000	2	1.2%	44
DETECTR	SORTS	FREQ%	8000	433	132	48000	1	0.6%	48
8			10000	251	165	52000	0	0.0%	52
9	6	7.6%	12000	84	198	56000	3	1.8%	56
10	10	12.7%	14000	17	231	60000	3	1.8%	60
11	16	20.3%	16000	3	264	64000	3	1.8%	64
12	18	22.8%	18000	2	298	68000	2	1.2%	68
13	17	21.5%	20000	0	331	72000	3	1.8%	72
14	10	12.7%	22000	0	364	76000	0	0.0%	76
15	2	2.5%	24000	0	397	80000	1	0.6%	80
TOTAL	79		26000	0	430	84000	0	0.0%	84
			>28000	0	0	>84000	0	0.0%	>84
			TOTAL	1886		TOTAL	171		
SUMMARY	TOTALS								
	HOT PARTIE	CLE EVENTS	164		SORTS BY	ONE GATE ONLY	92		
	MULTIPART	ICLE EVENTS	86		SORTS BY	TWO GATES	79		
	DISTRIBUTI	ED EVENTS	83						

# REC CODE EXPLANATION

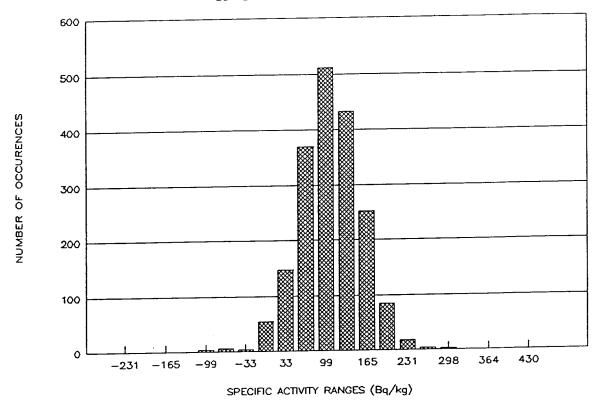
1.00 Source check (Soil on belt)

2.00 Empty belt

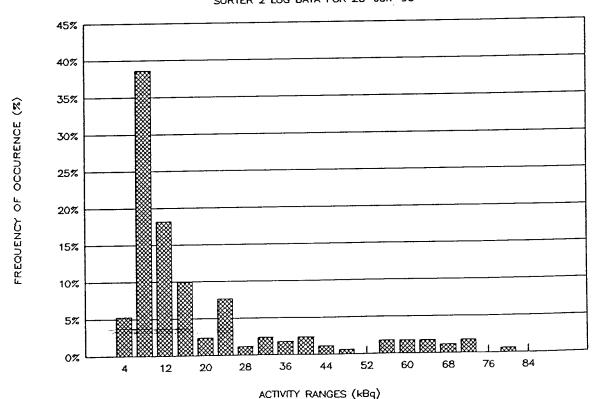
3.00 Test (No process soil)

# CLEAN SOIL SPECIFIC ACTIVITY

SORTER 2 LOG DATA FOR 23-Jun-93



# JA SOIL CLEANUP PLANT HOT PARTICLES SORTER 2 LOG DATA FOR 23-Jun-93



AVERAGE BACKGROUND COUNT RATE	0.71 ±	0.03 c/sec		
SORTER SOIL DENSITY	1.25 tons/m <sup>3</sup>			
GROUND SOIL DENSITY	1.65 tons/m³			
		CONTAMINATED	CLEAN	
MASS TOTAL		0.24 tons	109.4 ton	s
MAXIMUM/SORT		4.4 kg	58.2 kg	
MINIMUM/SORT		0.7 kg	53.9 kg	
WEIGHT RECOVERY OR VOLUME RECOVE	RY			99.8%
EQUIVALENT SOIL-IN-GROUND		0.19 yd <sup>3</sup>	86.7 yd <sup>3</sup>	86.9 yd³/day
PARTICLE ACTIVITY (MAXIMUM ESTIM	ATF)			
TOTAL		7,916 kBq		
MAXIMUM/SORT		1,007 kBq		
MINIMUM/SORT		3.2 kBq		
HIMITION JUNE		·		
DISPERSED + PARTICLE (REALISTIC	ESTIMATE) ACTIVITY	2,495 kBq	7,188 kBq	
MAXIMUM/SORT		633 kBq	14 kBq	
MINIMUM/SORT		0 Bq	-11 kBq	
SPECIFIC ACTIVITY		10,351 Bq/kg	66 Bq/	kg
WORK HISTORY				
WORK DAY START	05:00 AM	WORK DAY END	04:30 PM	
PLANT START-UP	05:00 AM	PLANT SHUT-DOWN	04:30 PM	
START SOIL PROCESSING	05:31 AM	END SOIL PROCESSING	04:01 PM	
LUNCH START	11:30 AM	LUNCH PERIOD	0.0 hr	
WORK HOURS		11.5 hr		
AVAILABLE HOURS		11.5 hr		
	OURS (total 20-sec records)	10.46 hr		
DOWN-TIME	•	1.04 hr		
TOTAL SYSTEM PAU	SE	0.01 hr		
NONAVAILABLE HOU	RS	0.0 hr		
START-UP		0.53 hr		
SHUT-DOWN		0.47 hr		
PLANT PERFORMANC	Ε	91.0%		
PRODUCTIVITY		91.0%		
TOTAL SOIL PROCESSING RECORDS (2	-SEC and 20-SEC)	2,109		
NONPROCESS RECORDS (Test, calibr		7		
20-SEC PROCESS RECORDS		1,883		
TOTAL SORT		0=D>0 & MND=0		
NO SORT		1,702 AD=0 & MD=0	& MND>0	
SOME SORT		181 AD>0&0 <md<mn< td=""><td>Dmax&amp;MND<mndma< td=""><td>x</td></mndma<></td></md<mn<>	Dmax&MND <mndma< td=""><td>x</td></mndma<>	x
UNEXPLAINED RECO	RDS	0		
0 <ad<1kbq &="" md="">0</ad<1kbq>			UNEXPLAIN	PAUSE
•	_		TIME	TIME
AD=U	& MD 0			
AD<0			11:33:06	07:07

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2-SEC COUNT PERIODS	18,8	330	
2-SEC RECORDS WITH SORTS	ž	226 (ACT_P >0	) kBq)
2-SEC RECORDS WITH POSITIVES	IN >1 DETECT	TOR	
2 DETECTORS	64	78.0%	
3 DETECTORS	14	17.1%	
4 DETECTORS	3	3.7%	
5 DETECTORS	1	1.2%	
6 DETECTORS	0	0.0%	
7 DETECTORS	0	0.0%	
8 DETECTORS	0	0.0%	
TOTAL		82	
NET 2-SEC RECORDS WITH SORTS	•	144	
2-SEC PERIODS WITH NO SORTS	18,6	586	

AVG TIME BETWEEN 2-SEC SORTS

261.5 sec

1-GATE SO	ORTS	112	ACT_ND	NUMBER	SPEC_A	ACT_P	SORT	FREQ%	ACT_P
DETECTR	SORTS	FREQ%	_ (Bq)	(#)	(Bq/kg)	(Bq)	(#)		(kBq)
52125111			•						
1	3	2.7%	-14000	0	-241	4000	14	6.2%	4
2	12	10.7%	-12000	0	-206	8000	23	36.3%	8
3	14	12.5%	-10000	1	-172	12000	29	12.8%	12
4	21	18.8%	-8000	3	-137	16000	25	11.1%	16
5	20	17.9%	-6000	2	-103	20000	14	6.2%	20
6	23	20.5%	-4000	3	-69	24000	5	2.2%	24
` 7 ·	14	12.5%	-2000	32	-34	28000	6	2.7%	28
8	5	4.5%	0	117	0	32000	6	2.7%	32
TOTAL	112		2000	323	34	36000	4	1.8%	36
			4000	541	69	40000	6	2.7%	40
2-GATE S	ORTS	114	6000	498	103	44000	5	2.2%	44
DETECTR	SORTS	FREQ%	8000	255	137	48000	4	1.8%	48
8			10000	80	172	52000	2	0.9%	52
9	10	8.8%	12000	33	206	56000	1	0.4%	56
10	13	11.4%	14000	2	241	60000	1	0.4%	60
11	14	12.3%	16000	0	275	64000	5	2.2%	64
12	23	20.2%	18000	0	309	68000	2	0.9%	68
13	24	21.1%	20000	0	344	72000	3	1.3%	72
14	22	19.3%	22000	0	378	76000	0	0.0%	76
15	8	7.0%	24000	0	412	80000	0	0.0%	80
TOTAL	114		26000	0	447	84000	1	0.4%	84
			>28000	0	0	>84000	11	4.9%	>84
			TOTAL	1890		TOTAL	226		
SUMMARY	TOTALS								
H	OT PARTIC	LE EVENTS	223		SORTS BY	ONE GATE ONLY	112		
M	ULTIPARTI	CLE EVENTS	108		SORTS BY	TWO GATES	114		

## REC CODE EXPLANATION

1.00 Source check (Soil on belt)

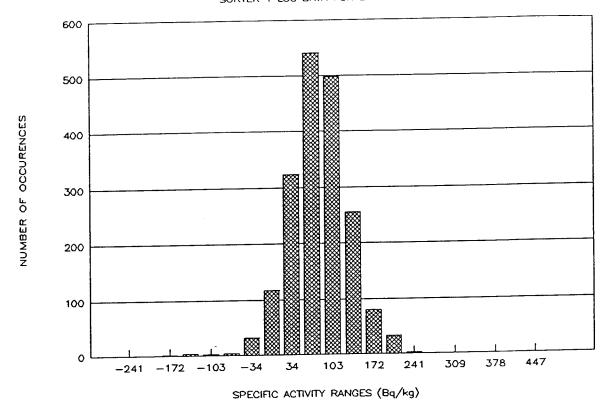
2.00 Empty belt

DISTRIBUTED EVENTS

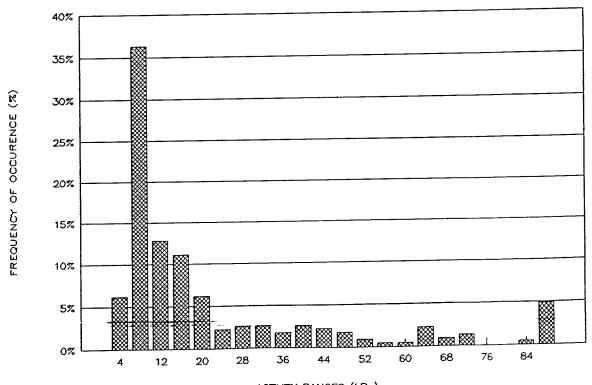
3.00 Test (No process soil)

# CLEAN SOIL SPECIFIC ACTIVITY

SORTER 1 LOG DATA FOR 24-Jun-93



# JA SOIL CLEANUP PLANT HOT PARTICLES SORTER 1 LOG DATA FOR 24-Jun-93



SORTER 2 24-Jun-93				
30K/EK 2 24 00K/3				
AVERAGE BACKGROUND COUNT RATE	0.79 ±	0.03 c/sec		
SORTER SOIL DENSITY	1.25 tons/	W <sub>2</sub>		
GROUND SOIL DENSITY	1.65 tons/			
		CONTAMINATED	CLEAN	
MASS TOTAL		0.31 tons	107.3 ton:	S
MAXIMUM/SORT		61.1 kg	58.2 kg	
MINIMUM/SORT		0.7 kg	53.9 kg	
ATTACKT DESCRIPTION OF VOLUME DESCRIPT	D.V.			99.7%
WEIGHT RECOVERY OR VOLUME RECOVE	K I	0.25 yd³	85.1 yd³	85.3 yd3/day
EQUIVALENT SOIL-IN-GROUND		7-2	•	
PARTICLE ACTIVITY (MAXIMUM ESTIM	ATE)	•		
TOTAL	···•	3,483 kBq		
MAXIMUM/SORT		103 kBq		
MINIMUM/SORT		3.7 kBq		
•				
DISPERSED + PARTICLE (REALISTIC	ESTIMATE) ACTIVITY	1,205 kBq	9,246 kBq	
MAXIMUM/SORT		59 kBq	17 kBq	
MINIMUM/SORT		-447 Bq	-9 kBq	
SPECIFIC ACTIVITY		3,892 Bq/kg	86 Bq/I	(g
WORK HISTORY		LIGHT BAY FUB	0/-70 DM	
WORK DAY START	05:00 AM	WORK DAY END	04:30 PM 04:30 PM	
PLANT START-UP	05:00 AM	PLANT SHUT-DOWN END SOIL PROCESSING		
START SOIL PROCESSING	05:31 AM 11:30 AM	LUNCH PERIOD	0.0 hr	
LUNCH START	(1.30 Mh	Editori Textoo		
WORK HOURS		11.5 hr		
AVAILABLE HOURS		11.5 hr		
ACTUAL PROCESS H	OURS (total 20-sec records	) 10.27 hr		
DOWN-TIME		1.23 hr		
TOTAL SYSTEM PAU	SE	0.23 hr		
NONAVAILABLE HOU	RS	0.0 hr		
START-UP		0.53 hr		
SHUT-DOWN		0.41 hr		
PLANT PERFORMANC	<b>E</b>	89.3%		
PRODUCTIVITY		89.3%		
	050 1 20 050)	2,016		
TOTAL SOIL PROCESSING RECORDS (2		2,018		
NONPROCESS RECORDS (Test, calibrates)	ation, etc)	1,849		
20-SEC PROCESS RECORDS		2 MD>0 & MND=0		
TOTAL SORT NO SORT		1,705 AD=0 & MD=0 8	MND>0	
SOME SORT		142 AD>0&0 <md<mn0< td=""><td></td><td>(</td></md<mn0<>		(
UNEXPLAINED RECO	RDS	0		
0 <ad<1kbq &="" md="">0</ad<1kbq>			UNEXPLAIN	PAUSE
AD=0			TIME	TIME
AD<0			07:39:47	07:07
ACT_P <5 kBq	22 13.2%		13:52:34	12:24
<del>-</del> '				

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1

	2-SEC COL	JNT PERIOOS				18,490	)				16:04:54	13:44
		2-SEC RECORD	S WITH S	ORTS		167	' (ACT_F	>0 kBq)				
		2-SEC RECORD	S WITH P	OSITIVES	IN >1 D	ETECTOR						
			DETECTO		36		92.3%					
		3	DETECTO	RS	3		7.7%					
			DETECTO		0		0.0%					
		9	DETECTO	RS	0		0.0%					
		6	DETECTO	RS	0		0.0%					
		7	DETECTO	RS	0		0.0%					
		8	DETECTO	RS	0		0.0%					
		1	OTAL			39	•					
		NET 2-SEC RE	CORDS WI	TH SORTS		128	;					
		2-SEC PERIOD	S WITH N	O SORTS		18,362	:					
		AVG TIME BET	WEEN 2-S	EC SORTS		288.9	sec					
1-GATE	SORTS	84	ACT_ND	NUMBER	SPEC_A			ACT_P	SORT	FREQ%	ACT_P	
DETECTR		FREQ%	_ (Bq)	(#)	(Bq/kg)			(Bq)	(#)		(kBq)	
			•									
1	3	3.6%	-14000	0	-241			4000	4	2.4%	4	
2	12	14.3%	-12000	0	-206			8000	63	37.7%	8	
3	16	19.0%	-10000	2	-172			12000	21	12.6%	12	
4	18	21.4%	-8000	3	-137			16000	14	8.4%	16	
5	13	15.5%	-6000	7	-103			20000	10	6.0%	20	
6	12	14.3%	-4000	3	-69			24000	8	4.8%	24	
7	8	9.5%	-2000	24	-34			28000	7	4.2%	28	
8	2	2.4%	0	58	0			32000	4	2.4%	32	
TOTAL	84		2000	184	34			36000	8	4.8%	36	
			4000	426	69			40000	5	3.0%	40	
2-GATE	SORTS	83	6000	508	103			44000	1	0.6%	44	
DETECTR	SORTS	FREQ%	8000	379	137			48000	1	0.6%	48	
8			10000	183	172			52000	1	0.6%	52	
9	10	12.0%	12000	61	206			56000	3	1.8%	56	
10	11	13.3%	14000	22	241			60000	2	1.2%	60	
11	18	21.7%	16000	5	275			64000	0	0.0%	64	
12	16	19.3%	18000	2	309			68000	2	1.2%	68	
13	12	14.5%	20000	0	344			<b>7</b> 2000	6	3.6%		
14	11	13.3%	22000	0	378			76000	1	0.6%	76	
15	5	6.0%	24000	0	412			80000	1	0.6%	80	
TOTAL	83		26000	0	447			84000	2	1.2%	84	
			>28000	0	0		>	84000	3	1.8%	>84	
			TOTAL	1867				TOTAL	167			
SUMMARY	TOTALS											
1	HOT PARTI	CLE EVENTS	164		SORTS BY			Y	84			
1	MULTIPART	ICLE EVENTS	93		SORTS BY	r two g	ATES		83			
1	DISTRIBUT	ED EVENTS	166									

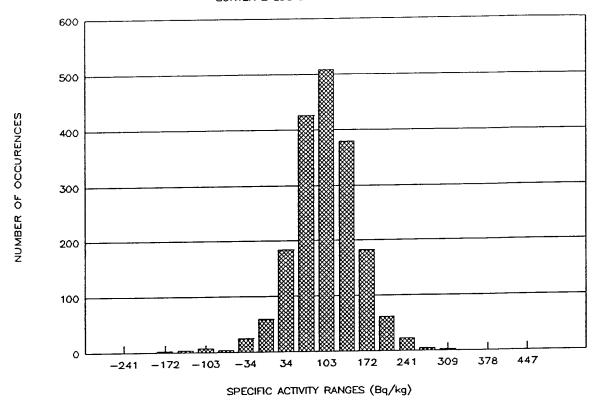
### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

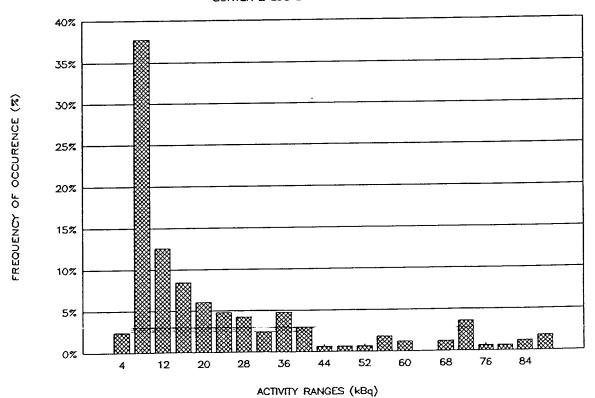
2.00 Empty belt

3.00 Test (No process soil)

SORTER 2 LOG DATA FOR 24-Jun-93



JA SOIL CLEANUP PLANT HOT PARTICLES
SORTER 2 LOG DATA FOR 24-Jun-93



SORTER 1 25-Jun-93				
AVERAGE BACKGROUND COUNT RATE	0.73 ± 0	.04 c/sec		
SORTER SOIL DENSITY	1.25 tons/m <sup>3</sup>			
GROUND SOIL DENSITY	1.65 tons/m³			
drooms sole sensit.		CONTAMINATED	CLEAN	
MASS TOTAL		0.28 tons	101.5 tons	3
MAXIMUM/SORT		61.1 kg	58.2 kg	
MINIMUM/SORT		0.7 kg	54.6 kg	
HIRITION CONT.				
WEIGHT RECOVERY OR VOLUME RECOVE	RY			99.7%
EQUIVALENT SOIL-IN-GROUND		0.22 yd3	80.4 yd <sup>3</sup>	80.7 yd³/day
PARTICLE ACTIVITY (MAXIMUM ESTIM	MATE)			
TOTAL		3,266 kBq		
MAXIMUM/SORT		146 kBq		
MINIMUM/SORT		3.2 kBq		
ALABAGAS - DARTICLE (REALICTIC	COTIMATEL ACTIVITY	1,161 kBq	6,631 kBq	
DISPERSED + PARTICLE (REALISTIC	ESTIMATE) ACTIVITY	81 kBq	13 kBq	
MAXIMUM/SORT		0 Bq	-10 kBq	
MINIMUM/SORT  SPECIFIC ACTIVITY		4,097 Bq/kg	65 Bq/l	(g
SPECIFIC ACTIVITY				
WORK HISTORY				
WORK DAY START	05:00 AM	WORK DAY END	04:30 PM	
PLANT START-UP	05:00 AM	PLANT SHUT-DOWN	03:30 PM	
START SOIL PROCESSING	05:25 AM	END SOIL PROCESSING		
LUNCH START	11:30 AM	LUNCH PERIOD	0.0 hr	
FOUR HOUSE		11.5 hr		
WORK HOURS  AVAILABLE HOURS		10.5 hr		
	NOURS (total 20-sec records)	9.71 հո		
DOWN-TIME	100%3 (10121 25 555 1 555 25)	0.79 hr	•	
TOTAL SYSTEM PAU	ICE	0.01 hr		
NONAVAILABLE HOL		1.0 hr		
START-UP		0.43 hr		
SHUT-DOWN		0.36 hr		
PLANT PERFORMANC	<b></b>	92.5%		
PRODUCTIVITY		84.4%		
11.0000111111				
TOTAL SOIL PROCESSING RECORDS (2	2-SEC and 20-SEC)	1,939		
NONPROCESS RECORDS (Test, calib	ration, etc)	3		
20-SEC PROCESS RECORDS		1,748		
TOTAL SORT		1 MD>0 & MND=0		
NO SORT		1,577 AD=0 & MD=0 &		
SOME SORT		170 AD>0&0 <md<mn< td=""><td>)max&amp;MND<mndma)< td=""><td>K</td></mndma)<></td></md<mn<>	)max&MND <mndma)< td=""><td>K</td></mndma)<>	K
UNEXPLAINED RECO	DRDS	0		
0 <ad<1kbq &="" md="">0</ad<1kbq>	2		UNEXPLAIN	PAUSE
AD=0	& MD 1		TIME	TIME
0>DA			06:45:42	14:26
ACT_P <5 kBq	41 21.5%		10:51:22	

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2-SEC COUNT PERIODS		17,	14:27:20	
	RDS WITH SORTS		191 (ACT_P >0 kBq)	
2-SEC RECOR	RDS WITH POSITIVES IN	>1 DETEC	TOR	
	2 DETECTORS	46	92.0%	
	3 DETECTORS	4	8.0%	
	4 DETECTORS	0	0.0%	
	5 DETECTORS	0	0.0%	
	6 DETECTORS	0	0.0%	
	7 DETECTORS	0	0.0%	
	8 DETECTORS	0	0.0%	
	TOTAL		50	
NET 2-SEC 1	RECORDS WITH SORTS		141	
	DOS WITH NO SORTS	17.	339	
	ETWEEN 2-SEC SORTS	•	7.9 sec	

1-GATE S	ORTS	85	ACT_ND	NUMBER	SPEC_A	ACT_P		FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)	(Bq)	(#)		(kBq)
					2/4	4000	7	3.7%	4
1	0	0.0%	-14000	0	-241	8000	79	41.4%	8
2	7	8.2%	-12000	0	-206	12000	35	18.3%	12
3	19	22.4%	-10000	1	-172	16000	16	8.4%	16
4	18	21.2%	-8000	5	-137		11	5.8%	20
5	16	18.8%	-6000	11	-103	20000	7	3.7%	24
6	13	15.3%	-4000	12	-69	24000		1.0%	28
7	8	9.4%	-2000	31	-34	28000	2		<b>3</b> 2
8	4	4.7%	0	122	0	32000	4	2.1%	
TOTAL	85		2000	286	34	36000	5	2.6%	36
			4000	469	69	40000	1	0.5%	40
2-GATE S	SORTS	106	6000	406	103	44000	2		44
DETECTR	SORTS	FREQ%	8000	259	137	48000	4	2.1%	48
8			10000	108	172	52000	4	2.1%	52
9	4	3.8%	12000	36	206	56000	2	1.0%	56
10	15	14.2%	14000	5	241	60000	1	0.5%	60
11	22	20.8%	16000	0	275	64000	0	0.0%	64
12	18	17.0%	18000	0	309	68000	1	0.5%	68
13	20	18.9%	20000	0	344	72000	6	3.1%	72
14	15	14.2%	22000	0	378	76000	0	0.0%	76
	12	11.3%	24000	0	412	80000	1	0.5%	80
15		11.3%	26000	0		84000	0	0.0%	84
TOTAL	106		>28000	0		>84000	3	1.6%	>84
				1751	_	TOTAL	191		
			TOTAL	1751					
SUMMARY					CONTO DV	ONE GATE ONLY	85		
	HOT PARTICE		203				106		
	MULTIPARTIO		102		SORIS BY	TWO GATES	100	•	
1	DISTRIBUTE	EVENTS	83						

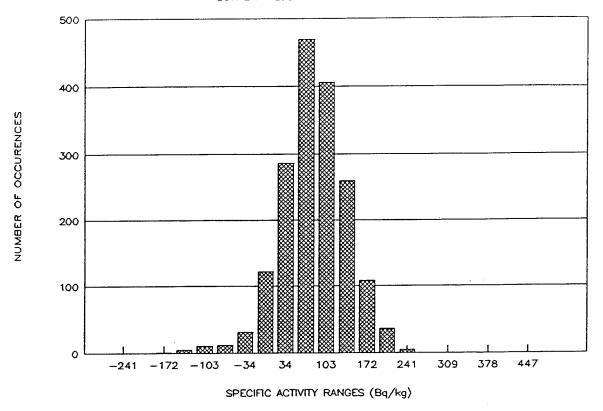
### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

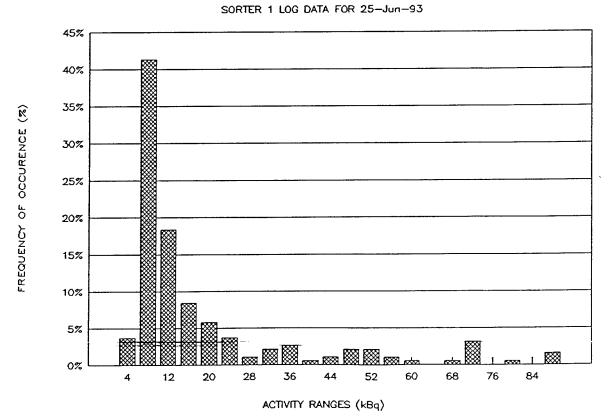
2.00 Empty beit

3.00 Test (No process soil)

SORTER 1 LOG DATA FOR 25-Jun-93



# JA SOIL CLEANUP PLANT HOT PARTICLES



SORTER 2 25-Jun-93		,		
AVERAGE BACKGROUND COUNT RATE	0.79 ±	0.02 c/sec		
SORTER SOIL DENSITY	1.25 tons/	m <sup>5</sup>		
GROUND SOIL DENSITY	1.65 tons/	m²		
		CONTAMINATED	CLEAN	
MASS TOTAL		0.47 tons	74.2 tons	
MAXIMUM/SORT		61.1 kg	58.2 kg	
MINIMUM/SORT		0.7 kg	53.9 kg	
WEIGHT RECOVERY OR VOLUME RECOVE	ERY			99.4%
EQUIVALENT SOIL-IN-GROUND		0.38 yd³	58.8 yd³	59.2 yd3/day
PARTICLE ACTIVITY (MAXIMUM ESTI	(ATE)			
TOTAL		4,932 kBq		
MAXIMUM/SORT		471 kBq		
MINIMUM/SORT		2.8 kBq		
DISPERSED + PARTICLE (REALISTIC	ESTIMATE) ACTIVITY	1,574 kBq	6,168 kBq	
MAXIMUM/SORT	Cottlatte, Motter	226 kBq	18 kBq	
MINIMUM/SORT		-2227 Bq	-4 kBq	
SPECIFIC ACTIVITY		3,321 Bq/kg	83 Bq/k	g
WORK HISTORY				
WORK DAY START	05:00 AM	WORK DAY END	04:30 PM	
PLANT START-UP	05:00 AM	PLANT SHUT-DOWN	03:30 PM	
START SOIL PROCESSING	05:26 AM	END SOIL PROCESSING		
LUNCH START	11:30 AM	LUNCH PERIOD	0.0 hr	
WORK HOURS		11.5 hr		
AVAILABLE HOURS		10.5 hr		
ACTUAL PROCESS I	HOURS (total 20-sec records			
DOWN-TIME		3.37 hr		
TOTAL SYSTEM PAU		2.58 hr		
NONAVAILABLE HOL	JRS	1.0 hr 0.44 hr		
START-UP		0.39 hr		
SHUT-DOWN '	<b>^</b>	67.9%		
PLANT PERFORMANO PRODUCTIVITY	E	62.0%		
	) one	1,442		
TOTAL SOIL PROCESSING RECORDS (2		1,442		
NONPROCESS RECORDS (Test, calibr	acton, etc.	1,283		
20-SEC PROCESS RECORDS		5 MD>0 & MND=0		
TOTAL SORT		1,156 AD=0 & MD=0 8	L MND>0	
NO SORT SOME SORT		122 AD>0&0 <md<mni< td=""><td></td><td></td></md<mni<>		
UNEXPLAINED RECO	ORDS	0		
0 <ad<1kbq &="" md="">0</ad<1kbq>			UNEXPLAIN	PAUSE
40.0	0.40		TIME	TIME

File S2JA0625.WR1

AD=0 & MD

AD<0 & MD

ACT\_P <5 kBq

4

1

18

11.3%

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TIME

10:00:42

11:46:58

TIME

11:45

12:32

	AVG TIME BETWEEN 2-SEC SORTS	చ	5.4 sec			
	2-SEC PERIODS WITH NO SORTS	12,				
	NET 2-SEC RECORDS WITH SORTS		109			
	TOTAL		50			
	8 DETECTORS	0	0.0%			
	7 DETECTORS	0	0.0%			
	6 DETECTORS	0	0.0%			
	5 DETECTORS	0	0.0%			
	4 DETECTORS	3	6.0%			
	3 DETECTORS	8	16.0%			
	2 DETECTORS	39	78.0%	15	:06:32	14:27
	2-SEC RECORDS WITH POSITIVES	IN >1 DETEC	TOR	14	:27:20	14:11
• •••	2-SEC RECORDS WITH SORTS		159 (ACT_P >0 kBq)	14	:11:04	12:59
2-SEC C	OUNT PERIODS	12,	830	12	:58:49	12:36

1-GATE SO	DRTS	81	ACT ND	NUMBER	SPEC_A	ACT_P	SORT	FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)	(Bq)	(#)		(kBq)
DETECT	COMIC				•				
1	3	3.7%	-14000	0	-241	4000	4	2.5%	4
2	17	21.0%	-12000	0	-206	8000	55	34.6%	8
3	12	14.8%	-10000	0	-172	12000	29	18.2%	12
4	11	13.6%	-8000	0	-137	16000	13	8.2%	16
5	14	17.3%	-6000	0	-103	20000	8	5.0%	20
6	10	12.3%	-4000	2	-69	24000	4	2.5%	24
7	12	14.8%	-2000	12	-34	28000	2	1.3%	28
8	2	2.5%	0	53	0	32000	2	1.3%	32
TOTAL	81		2000	162	34	36000	5	3.1%	36
			4000	288	69	40000	6	3.8%	40
2-GATE S	ORTS	78	6000	335	103	44000	4	2.5%	44
DETECTR	SORTS	FREQ%	8000	263	137	48000	4	2.5%	48
8			10000	118	172	52000	4	2.5%	52
9	7	9.0%	12000	41	206	56000	0	0.0%	56
10	11	14.1%	14000	10	241	60000	4	2.5%	60
11	11	14.1%	16000	1	275	64000	0	0.0%	64
12	16	20.5%	18000	1	309	68000	2	1.3%	68
13	12	15.4%	20000	0	344	72000	0	0.0%	72
14	14	17.9%	22000	0	378	76000	3	1.9%	76
15	7	9.0%	24000	0	412	80000	0	0.0%	80
TOTAL	78		26000	0	447	84000	1	0.6%	84
			>28000	0	0	>84000	9	5.7%	>84
			TOTAL	1286		TOTAL	159		
SUMMARY	TOTALS								
H	OT PARTICE	LE EVENTS	156		SORTS BY	ONE GATE ONLY	81		
M	JLT I PART I	CLE EVENTS	75		SORTS BY	TWO GATES	78		
_			/45						

DISTRIBUTED EVENTS 415

### REC CODE EXPLANATION

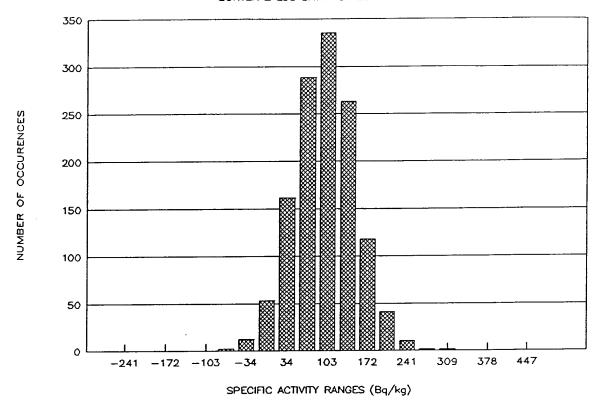
1.00 Source check (Soil on belt)

2.00 Empty belt

3.00 Test (No process soil)

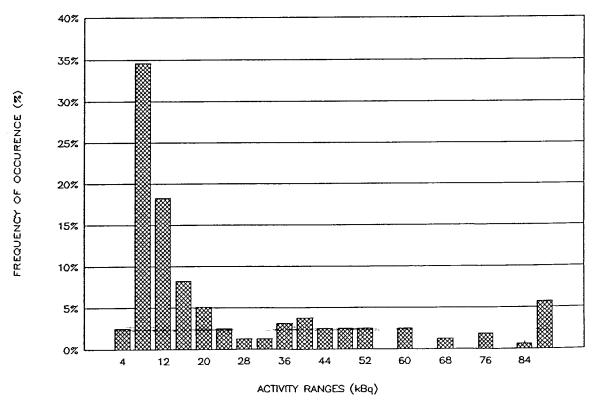
Printed on 06/26/93 at 07:15:14 AM

SORTER 2 LOG DATA FOR 25-Jun-93



# JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 2 LOG DATA FOR 25-Jun-93



SORTER 1 28-Jun-93				
AVERAGE BACKGROUND COUNT RATE	0.75 ± 0.	05 c/sec		
SORTER SOIL DENSITY	1.25 tons/m³			
GROUND SOIL DENSITY	1.65 tons/m³			
		CONTAMINATED	CLEAN	
MASS TOTAL		0.26 tons	108.2 ton:	5
MAXIMUM/SORT		3.6 kg	58.2 kg	
MINIMUM/SORT		0.7 kg	54.6 kg	
				99.8%
WEIGHT RECOVERY OR VOLUME RECOVERY		0.74 11	المن 7 05	86.0 yd <sup>3</sup> /day
EQUIVALENT SOIL-IN-GROUND		0.21 yd³	85.7 yd³	00.0 yu 7uay
PARTICLE ACTIVITY (MAXIMUM ESTIMATE	F)			
TOTAL	,	4,484 kBq		
MAXIMUM/SORT		166 kBq		
MINIMUM/SORT		3.1 kBq		
DISPERSED + PARTICLE (REALISTIC ES	TIMATE) ACTIVITY	1,543 kBq	7,156 kBq	
MAXIMUM/SORT		81 kBq	13 kBq	
MINIMUM/SORT		0 Bq	-5 kBq	
SPECIFIC ACTIVITY		5,905 Bq/kg	66 Bq/	(g
		•		
WORK HISTORY	05:00 AM	WORK DAY END	04:30 PM	
WORK DAY START	05:00 AM	PLANT SHUT-DOWN	04:30 PM	
PLANT START-UP START SOIL PROCESSING	05:36 AM	END SOIL PROCESSING		
LUNCH START	11:30 AM	LUNCH PERIOD	0.0 hr	
25				
` WORK HOURS		11.5 hr		
AVAILABLE HOURS		11.5 hr		
ACTUAL PROCESS HOU	RS (total 20-sec records)	10.35 hr		
DOWN-TIME		1.15 hr		
TOTAL SYSTEM PAUSE		0.00 hr		
NONAVAILABLE HOURS		0.0 hr		
START-UP		0.61 hr		
SHUT-DOWN		0.55 hr		
PLANT PERFORMANCE		90.0%		
PRODUCTIVITY		90.0%		
TOTAL SOIL PROCESSING RECORDS (2-S	EC and 20-SEC)	2,117		
NONPROCESS RECORDS (Test, calibrat		5		
20-SEC PROCESS RECORDS	·	1,863		
TOTAL SORT		0=DMM & 0 <dm 0<="" td=""><td></td><td></td></dm>		
NO SORT		1,660 AD=0 & MD=0 &	MND>0	
SOME SORT		203 AD>0&0 <md<mn0< td=""><td>max&amp;MND<mndma< td=""><td>•</td></mndma<></td></md<mn0<>	max&MND <mndma< td=""><td>•</td></mndma<>	•
UNEXPLAINED RECORDS	S	0		
0 <ad<1kbq &="" md="">0</ad<1kbq>	1		UNEXPLAIN	PAUSE
AD=0 & 1	MD 0		TIME	TIME
AD<0 & I	MD 0		07:35:37	None
ACT_P <5 kBq	52 20.5%			

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2.	-SEC CO	JNT PERIODS				18,630						
_		2-SEC RECORD	S WITH S	ORTS		254	(ACT_F	>0 kBq	)			
		2-SEC RECORD	S WITH PO	OSITIVES	IN >1 DE	ETECTOR						
			DETECTO		58		86.6%					
		3	DETECTO	RS	7		10.4%					
		4	DETECTO	RS	1		1.5%					
		5	DETECTO	RS	1		1.5%					
		6	DETECTO	RS	0		0.0%					
		7	DETECTO	RS	0		0.0%					
			DETECTO		0		0.0%					
			OTAL			67						
		NET 2-SEC RE	CORDS WI	TH SORTS		187						
		2-SEC PERIOD				18,443						
		AVG TIME BET				199.3	sec					
E SC	ORTS	129	ACT_ND	NUMBER	SPEC_A			ACT_P	SORT	FREQ%	ACT_P	
TR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)			(Bq)	(#)		(kBq)	
1	4	3.1%	-14000	0	-241			4000	12	4.7%	4	
	12		-12000	0	-206			8000	112	44.1%	8	

1-GATE S	ORTS	129	ACT_ND	NUMBER	SPEC_A	ACT_P	SORT	FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)	(Bq)	(#)		(kBq)
1	4	3.1%	-14000	0	-241	4000	12	4.7%	4
2	12	9.3%	-12000	0	-206	8000	112	44.1%	8
3	24	18.6%	-10000	1	-172	12000	37	14.6%	12
4	27	20.9%	8000	2	-137	16000	19	7.5%	16
5	20	15.5%	-6000	1	-103	20000	16	6.3%	20
6	18	14.0%	-4000	6	-69	24000	5	2.0%	24
7	19	14.7%	-2000	21	-34	28000	8	3.1%	28
8	5	3.9%	0	111	0	32000	6	2.4%	32
TOTAL	129		2000	357	34	36000	0	0.0%	36
			4000	533	69	40000	5	2.0%	40
2-GATE S	ORTS	125	6000	410	103	44000	4	1.6%	44
DETECTR	SORTS	FREQ%	8000	297	137	48000	3	1.2%	48
8			10000	97	172	52000	3	1.2%	52
9	6	4.8%	12000	27	206	56000	1	0.4%	56
10	15	12.0%	14000	5	241	60000	3	1.2%	60
11	28	22.4%	16000	0	275	64000	6	2.4%	64
12	19	15.2%	18000	0	309	68000	3	1.2%	68
13	21	16.8%	20000	0	344	72000	0	0.0%	72
14	25	20.0%	22000	0	378	76000	4	1.6%	76
15	11	8.8%	24000	0	412	80000	3	1.2%	80
TOTAL	125		26000	0	447	84000	2	0.8%	84
			>28000	0	0	>84000	2	0.8%	>84
			TOTAL	1868		TOTAL	254		
SUMMARY	TOTALS								
		LE EVENTS	249		SORTS BY	ONE GATE ONLY	129		
		CLE EVENTS	109		SORTS BY	TWO GATES	125		
-	TOTOTOLITE		0						

(I IOIALS			
HOT PARTICLE EVENTS	249	SORTS BY ONE GATE ONLY	129
MULTIPARTICLE EVENTS	109	SORTS BY TWO GATES	125
DISTRIBUTED EVENTS	0		

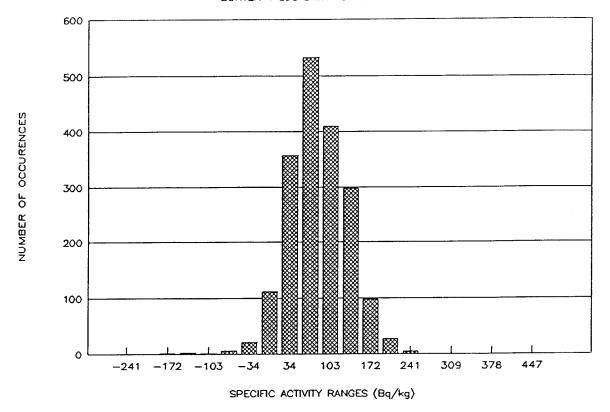
### REC CODE EXPLANATION

- 1.00 Source check (Soil on belt)
- 2.00 Empty belt
- 3.00 Test (No process soil)

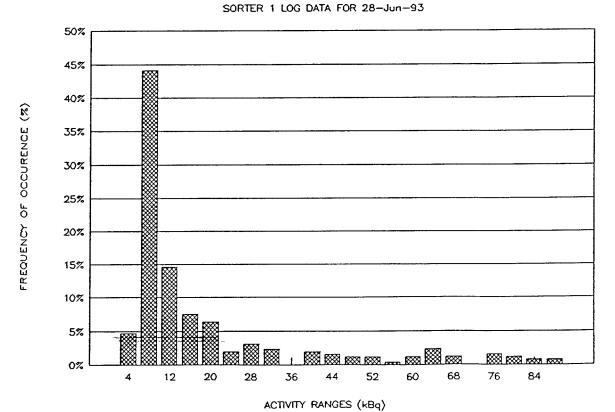
File S1JA0628.WR1

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SORTER 1 LOG DATA FOR 28-Jun-93



## JA SOIL CLEANUP PLANT HOT PARTICLES



SORTER 2 28-Jun-93	<b>;</b>						
AVERAGE BACKGROUND COUNT R	RATE	0.79	± 0	.02 c/sec			
SORTER SOIL DENSITY		1.25	tons/m³				
GROUND SOIL DENSITY		1.65	tons/m³				
				CONTAMINATED	CLEAN		
MASS TOTAL				0.25 tons	108.9 to		
MAXIMUM/SORT				2.9 kg	58.3 kg		
MINIMUM/SORT				0.7 kg	55.3 k	9	
WEIGHT RECOVERY OR VOLUME	RECOVERY					99	.8%
EQUIVALENT SOIL-IN-GROUND				0.20 yd³	86.3 yo	d3 86	.5 yd <sup>3</sup> /day
PARTICLE ACTIVITY (MAXIMUM	( FSTIMATE)						
TOTAL				4,017 kBq			
MAXIMUM/SORT				193 kBq			
MINIMUM/SORT				3.3 kBq			
DISPERSED + PARTICLE (REAL	ISTIC ESTIMATEL ACTIV	ΙΤΥ		1,498 kBq	11,748 ki	3q	
MAXIMUM/SORT	,1311C ESTIMATE, ACTIV	• • •		136 kBq	16 ki		
MINIMUM/SORT				0 Bq	-4 ki	3q	
SPECIFIC ACTIVITY				6,027 Bq/kg	108 Bo	q/kg	
SPECIFIC NOTIVITY	•		•	• , -			
WORK HISTORY				100V 04V 5ND	04:30 PM		
WORK DAY START	05:00 AM			WORK DAY END	04:30 PM		
PLANT START-UP	05:00 AM			PLANT SHUT-DOWN END SOIL PROCESSING			
START SOIL PROCESSI				LUNCH PERIOD	0.0 hi	-	
LUNCH START	11:30 AM			LUNCH PERICO	0.0		
WORK HOURS	;			11.5 hr			
AVAILABLE				11.5 hr			
ACTUAL PRO	CESS HOURS (total 20-	sec re	cords)	10.40 hr			
DOWN-TIME				1.10 hr			
TOTAL SYST				0.00 hr			
NONAVAILAB	LE HOURS			0.0 hr			
START-UP				0.59 hr			
SHUT-DOWN				0.51 hr			
PLANT PERF				90.4% 90.4%			
PRODUCTIVI	TY			90.4%			
TOTAL SOIL PROCESSING RECO	IRDS (2-SEC and 20-SEC	)		2,076			
NONPROCESS RECORDS (Test,	calibration, etc)			2			
20-SEC PROCESS RECO	IRDS			1,872			
TOTAL SORT				0 MD>0 & MND=0	1 4410 - C		
NO SORT				1,664 AD=0 & MD=0 &		no.v	
SOME SORT				208 AD>0&0 <md<mn0< td=""><td>JIMAX&amp;MNU <mnu1< td=""><td>IIdX</td><td></td></mnu1<></td></md<mn0<>	JIMAX&MNU <mnu1< td=""><td>IIdX</td><td></td></mnu1<>	IIdX	
UNEXPLAINE				0	INICVOLATE	PAUS	:
0 <ad<1kbq< td=""><td>_</td><td></td><td></td><td></td><td>UNEXPLAIN</td><td>TIMI</td><td></td></ad<1kbq<>	_				UNEXPLAIN	TIMI	
	AD=0 & MD 0				TIME 06:35:37	None	-
	0 GM & 0>DA	40.00			10:55:00	MOHE	
ACT_P <5 k	(Bq 25	12.3%	•				

File S2JA0628.WR1

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18,720

2-SEC RECORDS WITH SORTS 204 (ACT\_P >0 kBq)

		2-2EC KECOKI	2 MILL S	OKIS		204	(ACI_	, o kod)			
		2-SEC RECORD	S WITH P	OSITIVES	IN >1 DE	ETECTOR	:				
		2	DETECTO	ORS	49		86.0%				
		3	DETECTO	RS	6		10.5%				
		4	DETECTO	)RS	2		3.5%				
		5	DETECTO	RS	0		0.0%				
		6	DETECTO	RS	0		0.0%				
		7	DETECTO	RS	0		0.0%				
		ε	DETECTO	RS	0		0.0%				
		1	OTAL			57	•				
		NET 2-SEC RE				147					
		2-SEC PERIOD	S WITH N	O SORTS		18,573	•				
		AVG TIME BET	WEEN 2-S	EC SORTS		254.7	sec				
1-GATE	SORTS	106	ACT_ND	NUMBER	SPEC_A			ACT_P	SORT	FREQ%	ACT_P
DETECT	R SORTS	FREQX	(Bq)	(#)	(Bq/kg)			(Bq)	(#)		(kBq)
1	5	4.7%	-14000	0	-240			4000	14	6.9%	4
2	15	14.2%	-12000	0				8000	79	38.7%	8
3	16		-10000	0				12000	23		12
4	21	19.8%	-8000	0	-137			16000	31		16
5	23	21.7%	-6000	1	-103			20000	12		20
6	15	14.2%	-4000	2	-69			24000	6	2.9%	24
7	9	8.5%	-2000	4	-34			28000	5	2.5%	28
8	2	1.9%	0	19	0			32000	1	0.5%	32
TOTAL	106		2000	92	34			36000	0	0.0%	36
			4000	284	69			40000	1	0.5%	40
2-GATE	SORTS	98	6000	501	103			44000	3	1.5%	44
DETECTR	SORTS	FREQ%	8000	466	137			48000	1	0.5%	48
8			10000	322	172			52000	3	1.5%	52
9	10	10.2%	12000	134	206			56000	5	2.5%	56
10	14	14.3%	14000	40	240			60000	3	1.5%	60
11	18	18.4%	16000	8	274			64000	2	1.0%	64
12	20	20.4%	18000	1	309			68000	2	1.0%	68
13	18	18.4%	20000	0	343			72000	4	2.0%	72
14	12	12.2%	22000	0	377			76000	2	1.0%	76
15	6	6.1%	24000	0	412			80000	3	1.5%	80
TOTAL	98		26000	0	446			84000	0	0.0%	84
			>28000	0	0		>	84000	4	2.0%	>84
			TOTAL	1874				TOTAL	204		
	TOTALS										
		ICLE EVENTS	203		SORTS BY			Υ.	106		
		TICLE EVENTS	140		SORTS BY	(WO G	AIES		98		
	DISTRIBUT	TED EVENTS	0								

#### REC CODE EXPLANATION

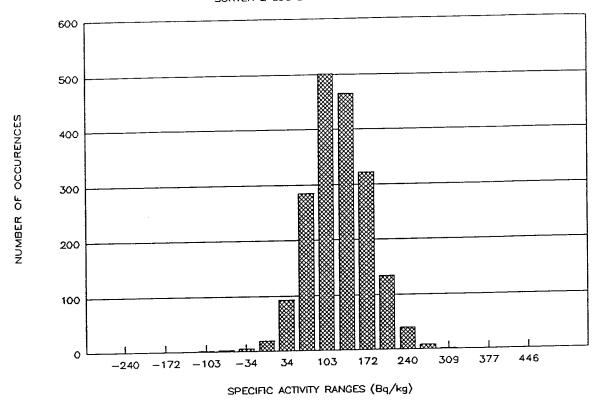
1.00 Source check (Soil on belt)

2.00 Empty belt

2-SEC COUNT PERIODS

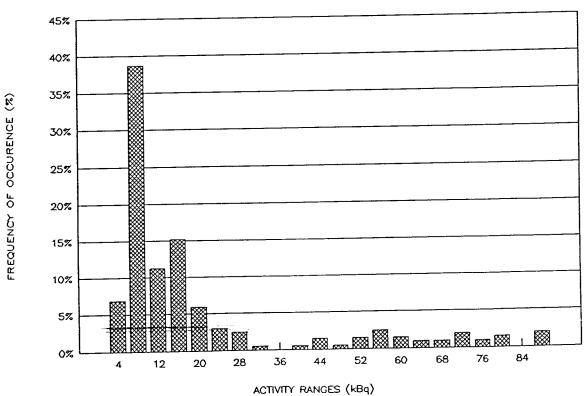
3.00 Test (No process soil)

SORTER 2 LOG DATA FOR 28-Jun-93



# JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 2 LOG DATA FOR 28-Jun-93



SORTER 1 29-Jun-93				
AVERAGE BACKGROUND COUNT RATE	0.73 ± 0	0.04 c/sec		
SORTER SOIL DENSITY	1.25 tons/m³			
GROUND SOIL DENSITY	1.65 tons/m³			
		CONTAMINATED	CLEAN	
MASS TOTAL		0.31 tons	98.1 ton	S
MAXIMUM/SORT		3.6 kg	58.2 kg	
MINIMUM/SORT		0.7 kg	54.6 kg	
WEIGHT RECOVERY OR VOLUME RECOVERY				99.7%
EQUIVALENT SOIL-IN-GROUND		0.25 yd³	77.7 yd³	78.0 yd3/day
PARTICLE ACTIVITY (MAXIMUM ESTIMAT	E)			
TOTAL		4,970 kBq		
MAXIMUM/SORT		133 kBq		
MINIMUM/SORT		2.5 kBq		
			( 0(0 l.n.	
DISPERSED + PARTICLE (REALISTIC ES	TIMATE) ACTIVITY	1,824 kBq	6,960 kBq	
MAXIMUM/SORT		81 kBq	17 kBq	
MINIMUM/SORT		0 Bq	-5 kBq	
SPECIFIC ACTIVITY		5,833 Bq/kg	71 Bq/	kg
	•			
WORK HISTORY	05-00 44	WORK DAY END	04:30 PM	
WORK DAY START	05:00 AM	PLANT SHUT-DOWN	04:30 PM	
PLANT START-UP	05:00 AM	END SOIL PROCESSING		
START SOIL PROCESSING	05:25 AM	LUNCH PERIOD	0.0 hr	
LUNCH START	11:30 AM	LONCH PERIOD	0.0	
WORK HOURS		11.5 hr		
AVAILABLE HOURS		11.5 hr		
	RS (total 20-sec records)	9.39 hr		
DOWN-TIME		2.11 հո		
TOTAL SYSTEM PAUSE		1.12 hr		
NONAVAILABLE HOURS		0.0 hr		
START-UP		0.42 hr		
SHUT-DOWN		0.50 hr		
PLANT PERFORMANCE		81.6%		
PRODUCTIVITY		81.6%		
•				
TOTAL SOIL PROCESSING RECORDS (2-S	EC and 20-SEC)	1,981		
NONPROCESS RECORDS (Test, calibrat	ion, etc)	24		
20-SEC PROCESS RECORDS		1,690		
TOTAL SORT		0 MD>0 & MND=0		
NO SORT		1,460 AD=0 & MD=0 8		
SOME SORT		230 AD>0&0 <md<mnd< td=""><td>)max&amp;MND<mndma< td=""><td>X</td></mndma<></td></md<mnd<>	)max&MND <mndma< td=""><td>X</td></mndma<>	X
UNEXPLAINED RECORDS	S	0		04105
0 <ad<1kbq &="" md="">0</ad<1kbq>	0		UNEXPLAIN	PAUSE
AD=0 & I			TIME	TIME
AD<0 & I			None	08:18
ACT_P <5 kBq	56 19.2%			09:08

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						16,900						11:50
;		INT PERIODS	C 111711 C	DOTE				>0 kBq)				
		2-SEC RECORD			TN >1 DE		(401_1	- 0 Ko47				
		2-SEC RECORD			72	rector.	73.5%					
			DETECTOR		21		21.4%					
			DETECTO		4		4.1%					
			DETECTOR		1		1.0%					
			DETECTOR		0		0.0%					
			DETECTO				0.0%					
			DETECTO		0		0.0%					
			DETECTO	RS .	0	00						
			OTAL			98 193						
		NET 2-SEC RE										
		2-SEC PERIOD				16,707						
		AVG TIME BET	WEEN 2-SI	EC SORIS		175.1	sec					
1-GATE	SORTS	144	ACT_ND	NUMBER	SPEC_A			ACT_P	SORT	FREQ%	ACT_P	
DETECTR		FREQ%	(Bq)	(#)	(Bq/kg)			(Bq)	(#)		(kBq)	
1	4	2.8%	-14000	0	-241			4000	15	5.2%	4	
2	18	12.5%	-12000	0	-206			8000	119		8	
3	17	11.8%	-10000	0	-172			12000	57	19.6%	12	
4	28	19.4%	-8000	0	-137			16000	21	7.2%	16	
5	32	22.2%	-6000	6	-103			20000	15	5.2%	20	
. 6	28	19.4%	-4000	16	-69			24000	7	2.4%	24	
7	13	9.0%	-2000	29	-34			28000	7	2.4%	28	
8	4	2.8%	0	106	0			32000	2	0.7%	32	
TOTAL	144		2000	274	34			36000	7	2.4%	36	
			4000	422	69			40000	7	2.4%	40	
2-GATE	SORTS	147	6000	444	103			44000	4	1.4%	44	
DETECTR	SORTS	FREQ%	8000	265	137			48000	2	0.7%	48	
8			10000	106	172			52000	4	1.4%	52	
9	9	6.1%	12000	36	206			56000	3	1.0%	56	
10	17	11.6%	14000	9	241			60000	3		60	
11	32	21.8%	16000	0	275			64000	5	1.7%	64	
12	29	19.7%	18000	1	309			68000	4	1.4%	68	
. 13	33	22.4%	20000	0	344			72000	2	0.7%	72	
14	18	12.2%	22000	0	378			76000	1	0.3%	76	
15	9	6.1%	24000	0	412			80000	1	0.3%	80	
TOTAL	147		26000	0	447			84000	1	0.3%	84	
			>28000	0	0		>	84000	4	1.4%	>84	
			TOTAL	1714				TOTAL	291			
SUMMARY	TOTALS											
	HOT PART	ICLE EVENTS	301		SORTS BY			_Y	144			
	MULTIPAR'	TICLE EVENTS	128		SORTS BY	TWO C	ATES		147			
	DISTRIBU	TED EVENTS	0									

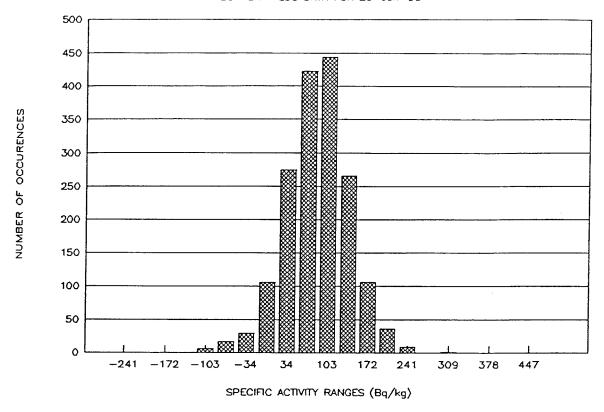
### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

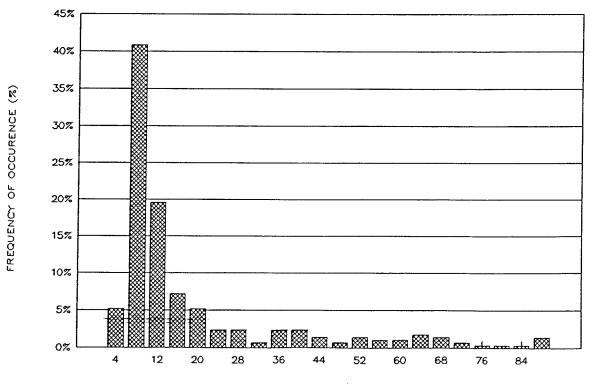
2.00 Empty belt

3.00 Test (No process soil)

SORTER 1 LOG DATA FOR 29-Jun-93



# JA SOIL CLEANUP PLANT HOT PARTICLES SORTER 1 LOG DATA FOR 29-Jun-93



SORTER 2	29-Jun-93									
AVERAGE BACKGRO	IND COUNT RATE		0.79	±	0.03	c/sec				
SORTER SOIL DEN			1.25	tons/m	3					
GROUND SOIL DEN			1.65	tons/m	3					
GROOMD SOIL DEM						CONTAM	INATED	CLEAN		
MASS TOTAL						0.25	tons	99.5	tons	
MAXIMUM/	SORT					4.4	kg	58.3	kg	
MINIMUM/						0.7	kg	53.9	kg	
•										
WEIGHT RECOVERY	OR VOLUME RECOVERY									99.7%
EQUIVALENT SOIL	-IN-GROUND					0.20	Aq <sub>3</sub>	78.9	Aq,	79.1 yd3/day
PARTICLE ACTIVI	TY (MAXIMUM ESTIMATE	:)								
TOTAL						4,713				
MAXIMUM/	SORT						kBq			
MINIMUM/	SORT					2.8	kBq			
			170			1,738	t Ra	9,874	kBa	
	TICLE (REALISTIC EST	IMALE) ACTIV	111				kBq	=	kBq	
MAXIMUM/							Bq		kBq	
MINIMUM/							Bq/kg		Bq/kg	
SPECIFIC	ACTIVITY					• • • • • • • • • • • • • • • • • • • •	- 4 - 3		•	
WORK HISTORY										
WORK DAY	START	05:00 AM				WORK D	AY END	04:30 PM		
PLANT ST	ART-UP	05:00 AM				PLANT	SHUT-DOWN	04:30 PM		
START SO	IL PROCESSING	05:25 AM				END SO	IL PROCESSING			
LUNCH ST	ART	11:30 AM				LUNCH	PERIOO	0.0	hr	
	TOOK HOUSE						11.5 hr			
	WORK HOURS  AVAILABLE HOURS						11.5 hr			
	ACTUAL PROCESS HOUR	S (total 20-	sec re	ecords)			9.51 hr			
	DOWN-TIME	(5 (10141 2		<b>-</b>			1.99 hr			
	TOTAL SYSTEM PAUSE						1.12 hr			
	NONAVAILABLE HOURS						0.0 hr			
	START-UP						0.42 hr			
	SHUT-DOWN						0.47 hr			
	PLANT PERFORMANCE						82.7%			
	PRODUCTIVITY						82.7%			
							1 0/7			
	ESSING RECORDS (2-SE		;)				1,943 5			
	RDS (Test, calibrati	ion, etc)				1,711				
20-SEC P	ROCESS RECORDS						) MD>0 & MND=0			
	TOTAL SORT						0=0M & 0=0A (			
	NO SORT						AD>0&0		NDmax	
	SOME SORT	•				()				
	UNEXPLAINED RECORDS  0 <ad<1kbq &="" md="">0</ad<1kbq>	0				`		UNEXPLAI	N i	PAUSE
	AD=0 & 1							TIME		TIME
	AD<0 & 1	-						None		09:08
	ACT_P <5 kBq	31	13.4	X						11:50
	"O. "									

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2-SEC COUNT PERIODS	17	,110
2-SEC RECORDS WITH SORTS		232 (ACT_P >0 kBq)
2-SEC RECORDS WITH POSITIVES IN	>1 DETE	CTOR
2 DETECTORS	58	90.6%
3 DETECTORS	6	9.4%
4 DETECTORS	0	0.0%
5 DETECTORS	0	0.0%
6 DETECTORS	0	0.0%
7 DETECTORS	0	0.0%
8 DETECTORS	0	0.0%
TOTAL		64
NET 2-SEC RECORDS WITH SORTS		168
2-SEC PERIODS WITH NO SORTS	16	,942
AVG TIME BETWEEN 2-SEC SORTS	2	203.7 sec

1-GATE S	ORTS	121	ACT_ND	NUMBER	SPEC_A	ACT_P		FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)	(Bq)	(#)		(kBq)
							_	~	,
1	6	5.0%	-14000	1	-240	4000	8		4
2	24	19.8%	-12000	0	-206	8000	83	35.8%	8
3	24	19.8%	-10000	1	-172	12000	43	18.5%	12
4	16	13.2%	-8000	2	-137	16000	22		16
5	20	16.5%	-6000	2	-103	20000	23		20
6	18	14.9%	-4000	4	-69	24000	11		24
7	11	9.1%	-2000	12	-34	28000	7		28
8	2	1.7%	0	45	0	32000	3		32
TOTAL	121		2000	118	34	36000	1		36
			4000	281	69	40000	3		40
2-GATE S	ORTS	111	6000	448	103	44000	4		44
DETECTR	SORTS	FREQ%	8000	416	137	48000	1		48
8			10000	249	172	52000	0		52
9	9	8.1%	12000	107	206	56000	4		56
10	21	18.9%	14000	23	240	60000	5		60
11	21	18.9%	16000	6	274	64000	3	1.3%	64
12	. 21	18.9%	18000	1	309	68000	0		68
13	19	17.1%	20000	0	343	72000	1		72
14	14	12.6%	22000	0	377	76000	3	1.3%	76
15	6	5.4%	24000	0	412	80000	1		80
TOTAL	111		26000	0	446	84000	1	0.4%	84
,			>28000	0	0	>84000	5	2.2%	>84
			TOTAL	1716	•	TOTAL	232		
SUMMARY	TOTALS								
	OT PARTICE	LE EVENTS	235		SORTS BY	ONE GATE ONLY	121		
		CLE EVENTS	110		SORTS BY	TWO GATES	111		
	ISTRIBUTE		0						
•									

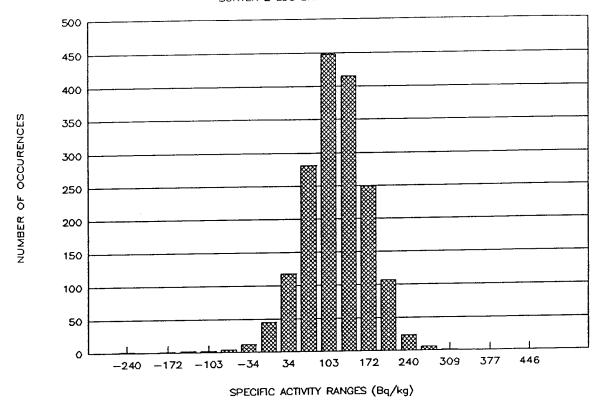
### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

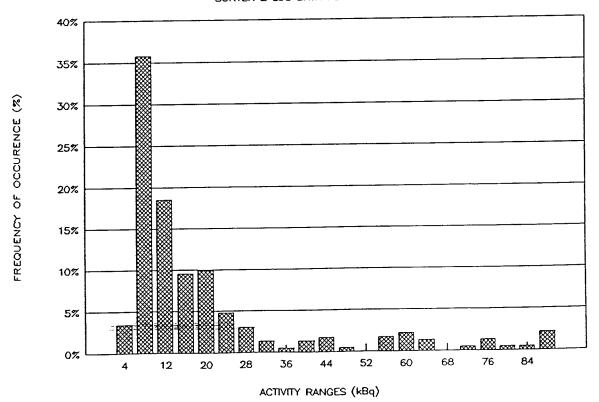
2.00 Empty belt

3.00 Test (No process soil)

SORTER 2 LOG DATA FOR 29-Jun-93



JA SOIL CLEANUP PLANT HOT PARTICLES
SORTER 2 LOG DATA FOR 29-Jun-93



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SORTER 1 30-Jun-93								
	_	A 773	0.04	- (				
AVERAGE BACKGROUND COUNT RAT	ſΕ		± 0.04	c/sec				
SORTER SOIL DENSITY		1.25 ton 1.65 ton						
GROUND SOIL DENSITY		1.65 (01)	15/111°	CONTAMINATED		CLEAN	ı	
W.00 TOTAL				0.16 tons			' tons	
MASS TOTAL				5.1 kg		58.2		
MAXIMUM/SORT				0.7 kg		53.1		
MINIMUM/SORT				0 73			5	
WEIGHT RECOVERY OR VOLUME RE	COVERY							99.7%
EQUIVALENT SOIL-IN-GROUND				0.13 yd³		47.4	yd3	47.5 yd³/day
PARTICLE ACTIVITY (MAXIMUM E	ESTIMATE)							
TOTAL	-			2,271 kBq				
MAXIMUM/SORT				360 kBq				
MINIMUM/SORT				2.4 kBq				
DISPERSED + PARTICLE (REALIS	STIC ESTIMATE) ACTIV	VITY		867 kBq		4,520	kBq	
MAXIMUM/SORT				209 kBq		13	kBq	
MINIMUM/SORT				0 Bq		-9	kBq	
SPECIFIC ACTIVITY				5,448 Bq/kg		76	Bq/kg	
WORK HISTORY								
WORK DAY START	05:00 AM			WORK DAY END	0	4:30 PM		
PLANT START-UP	05:00 AM			PLANT SHUT-DOWN	1	1:30 AM		-
START SOIL PROCESSING	05:20 AM			END SOIL PROCES	SING 1	1:03 AM		
LUNCH START	11:30 AM			LUNCH PERIOD		0.5	hr	
WORK HOURS				11.0	hr			
AVAILABLE HO	URS			6.5 1	hr			
ACTUAL PROCE	SS HOURS (total 20-	sec record	ds)	5.72 1	٦r			
DOWN-TIME				0.78	זר			
TOTAL SYSTEM	PAUSE			0.00 8				
NONAVAILABLE	HOURS			4.5 (				
START-UP				0.34 1				
SHUT-DOWN				0.45 1	ır			
PLANT PERFOR PRODUCTIVITY				87.9% 52.0%				
TOTAL SOIL PROCESSING RECORD		:)		1,153				
NONPROCESS RECORDS (Test, ca				1 020				
20-SEC PROCESS RECORD	5			1,029	m-0			
TOTAL SORT				0 MD>0 & MM 891 AD=0 & ME		กรบ		
NO SORT				138 AD>0&0<			llmar	
SOME SORT	PECOPOS			0	, AINUING	ALL UNITED	TO NO.	
UNEXPLAINED	KECUKUS			U		15VD( 4 **		AUCE

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PAUSE

TIME

None

UNEXPLAIN

TIME

None

0<AD<1kBq & MD>0

ACT\_P <5 kBq

AD=0 & MD

AD<0 & MD

0

0

21 16.9%

2-SEC COUNT PERIODS	10,290	
2-SEC RECORDS WITH SORTS	124	(ACT_P >0 kBq)
2-SEC RECORDS WITH POSITIVES I	N >1 DETECTOR	
2 DETECTORS	27	81.8%
3 DETECTORS	6	18.2%
4 DETECTORS	0	0.0%
5 DETECTORS	0	0.0%
6 DETECTORS	0	0.0%
7 DETECTORS	0	0.0%
8 DETECTORS	0	0.0%
TOTAL	33	
NET 2-SEC RECORDS WITH SORTS	91	
2-SEC PERIODS WITH NO SORTS	10,199	
AVG TIME BETWEEN 2-SEC SORTS	226.2	sec
SORTS 62 ACT_ND NUMBER	SPEC_A	ACT_P

1-GATE	SORTS	62	ACT ND	NUMBER	SPEC_A	ACT_P	SORT	FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)		(Bq/kg)	(pg)	(#)		(kBq)
DETECTION	505		• •		•				
1	2	3.2%	-14000	0	-241	4000	5	4.0%	4
2	4	6.5%	-12000	0	-206	8000	65	52.4%	8
3	8	12.9%	-10000	0	-172	12000	21	16.9%	12
4	8	12.9%	-8000	1	-137	16000	9	7.3%	16
5	12	19.4%	-6000	1	-103	20000	4	3.2%	20
6	10	16.1%	-4000	2	-69	24000	2	1.6%	24
7	14	22.6%	-2000	10	-34	28000	4	3.2%	28
8	4	6.5%	0	48	0	32000	1	0.8%	32
TOTAL	62		2000	147	34	36000	0	0.0%	36
			4000	268	69	40000	2	1.6%	40
2-GATE	SORTS	62	6000	283	103	44000	0	0.0%	44
DETECTR	SORTS	FREQ%	8000	166	137	48000	1	0.8%	48
8			10000	82	172	52000	3	2.4%	52
9	2	3.2%	12000	22	206	56000	0	0.0%	56
10	3	4.8%	14000	2	241	60000	1	0.8%	60
11	11	17.7%	16000	0	275	64000	1	0.8%	64
12	12	19.4%	18000	0	309	68000	0	0.0%	68
13	15	24.2%	20000	0	344	72000	1	0.8%	72
14	9	14.5%	22000	0	378	76000	0	0.0%	76
15	10	16.1%	24000	0	412	80000	0	0.0%	80
TOTAL	62		26000	0	447	84000	1	0.8%	84
			>28000	0	0	>84000	3	2.4%	>84
			TOTAL	1032		TOTAL	124		
SUMMARY	TOTALS								
	HOT PARTIC	LE EVENTS	127			ONE GATE ONLY	62		
I	MULTIPARTI	CLE EVENTS	92		SORTS BY	TWO GATES	62		
1	DISTRIBUTE	D EVENTS	0						

### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

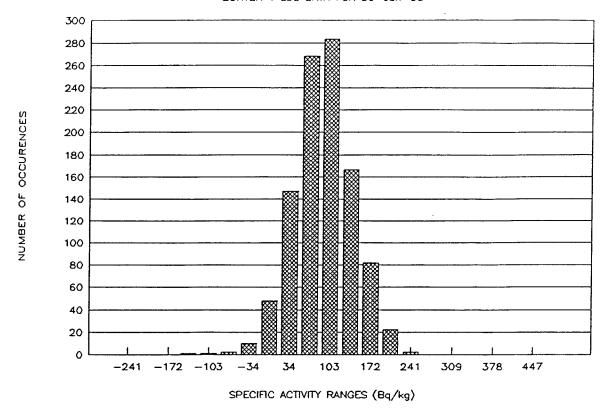
2.00 Empty belt

3.00 Test (No process soil)

File S1JA0630.WR1

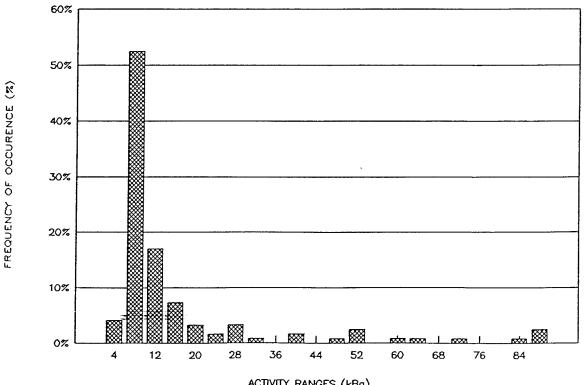
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SORTER 1 LOG DATA FOR 30-Jun-93



### JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 1 LOG DATA FOR 30-Jun-93



SORTER 2 30-Jun-93						
AVERAGE BACKGROUND COUNT RATE	0.80	± 0.01	c/sec			
SORTER SOIL DENSITY	1.25 t	tons/m³				
GROUND SOIL DENSITY	1.65 t	tons/m³				
			CONTAMINATED	CLEAN		
MASS TOTAL			0.14 tons	59.7		
MAXIMUM/SORT			4.4 kg	58.3	-	
MINIMUM/SORT			0.7 kg	53.9	Kg	
WEIGHT RECOVERY OR VOLUME RECOVERY						99.8%
EQUIVALENT SOIL-IN-GROUND			0.11 yd³	47.3	yd³	47.5 yd³/day
PARTICLE ACTIVITY (MAXIMUM ESTIMAT	E)					
TOTAL			1,723 kBq			
MAXIMUM/SORT			98 kBq			
MINIMUM/SORT			3.3 kBq			
DISPERSED + PARTICLE (REALISTIC ES	TIMATE) ACTIVITY		656 k8q	5,832	kBq	
MAXIMUM/SORT	•		46 kBq	15	kBq	
MINIMUM/SORT			0 Bq	-4	kBq	
SPECIFIC ACTIVITY			4,555 Bq/kg	98	Bq/kg	
WORK HISTORY	05 00 44		LADRY DAY END	04:30 PM		
WORK DAY START	05:00 AM		WORK DAY END PLANT SHUT-DOWN	11:30 AM		
PLANT START-UP	05:00 AM 05:21 AM		END SOIL PROCESSING			
START SOIL PROCESSING LUNCH START	11:30 AM		LUNCH PERIOD	0.5	hr	
EURON STANT	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
WORK HOURS			11.0 hr			
AVAILABLE HOURS			6.5 hr			
ACTUAL PROCESS HOU	RS (total 20-sec rec	ords)	5.71 hr			
DOWN-TIME			0.79 hr			
TOTAL SYSTEM PAUSE			0.00 hr			
NONAVAILABLE HOURS			4.5 hr 0.36 hr			
START-UP			0.44 hr			
SHUT-DOWN			87.8%			
PLANT PERFORMANCE PRODUCTIVITY			51.9%			
PRODUCTIVITY			2			
TOTAL SOIL PROCESSING RECORDS (2-SI	EC and 20-SEC)		1,164			
NONPROCESS RECORDS (Test, calibrat	ion, etc)		5			
20-SEC PROCESS RECORDS			1,027			
TOTAL SORT			0 MD>0 & MND=0			
NO SORT			912 AD=0 & MD=0 &		_	
SOME SORT			115 AD>0&0 <md<mn< td=""><td>IMM&gt;DMM&amp;xsm(</td><td>Dmax</td><td></td></md<mn<>	IMM>DMM&xsm(	Dmax	
UNEXPLAINED RECORDS			0	1015V61 4 ***	0.44	HCE
0 <ad<1kbq &="" md="">0</ad<1kbq>	2			UNEXPLAIN		use Ime
AD=0 & I				TIME	No	
AD<0 & I				10:01:54 10:55:14	n O	110
ACT_P <5 kBq	21 15.3%			(0.35:14		

File S2JA0630.WR1

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137 (ACT\_P >0 kBq)

10,270

		Z SEC RECORE	73 WIIII 3	00013		• •	, (vei"	· U KBQ	,		
		2-SEC RECORD	S WITH F	OSITIVES	IN >1 DE	TECT	OR				
		ā	2 DETECTO	RS	29		93.5%				
		3	S DETECTO	RS	2		6.5%				
		4	DETECTO	RS	0		0.0%				
		9	DETECTO	RS	0		0.0%				
		6	DETECTO	RS	0		0.0%				
		7	DETECTO	RS	0		0.0%				
		ε	DETECTO	RS	0		0.0%				
		ī	TOTAL			3	31				
		NET 2-SEC RE					06				
		2-SEC PERIOD				10,16					
		AVG TIME BET	WEEN 2-S	EC SORTS		193.	.8 sec				
1-GATE	SORTS	74	ACT_ND	NUMBER	SPEC_A			ACT_P	SORT	FREQ%	ACT_P
DETECT	R SORTS	FREQ%	(Bq)	(#)	(Bq/kg)			(Bq)	(#)		(kBq)
1	4	5.4%	-14000	0	-240			4000	5	3.6%	4
2	12		-12000	0	-206			8000	67	48.9%	8
3		17.6%	-10000	. 0	-172			12000	27	19.7%	12
4	. 11	14.9%	-8000	1	-137			16000	12	8.8%	16
5	15	20.3%	-6000	2	-103			20000	5	3.6%	20
6	9	12.2%	-4000	1	-69			24000	7	5.1%	24
7	9	12.2%	-2000	4	-34			28000	2	1.5%	28
8	1	1.4%	0	20	0			32000	2	1.5%	32
TOTAL	. 74		2000	85	34			36000	1	0.7%	36
			4000	181	69			40000	1	0.7%	40
2-GATE	SORTS	63	6000	296	103			44000	3	2.2%	44
DETECT	R SORTS	FREQ%	8000	226	137			48000	0	0.0%	48
8			10000	145	172			52000	0	0.0%	52
9	5	7.9%	12000	54	206			56000	0	0.0%	56
10	9	14.3%	14000	13	240			60000	2	1.5%	60
11	13	20.6%	16000	4	274			64000	2	1.5%	64
12	11	17.5%	18000	0	309			68000	0	0.0%	68
13	13	20.6%	20000	0	343			72000	0	0.0%	72
14	8	12.7%	22000	0	377			76000	0	0.0%	76
15	4	6.3%	24000	0	412			80000	0	0.0%	80
TOTAL	63		26000	0	446			84000	0	0.0%	84
			>28000	0	0		>	84000	1	0.7%	>84
			TOTAL	1032				TOTAL	137		
SUMMAR	Y TOTALS										
		CLE EVENTS	131		SORTS BY			Y	74		
		ICLE EVENTS	66		SORTS BY	1 MO	GATES		63		
	DISTRIBUT	ED EVENTS	0								

### REC CODE EXPLANATION

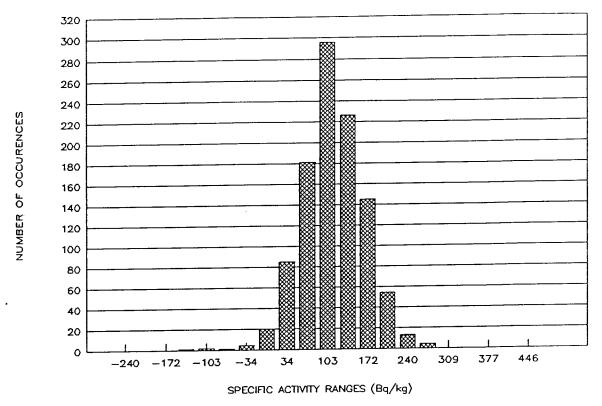
- 1.00 Source check (Soil on belt)
- 2.00 Empty belt

2-SEC COUNT PERIODS

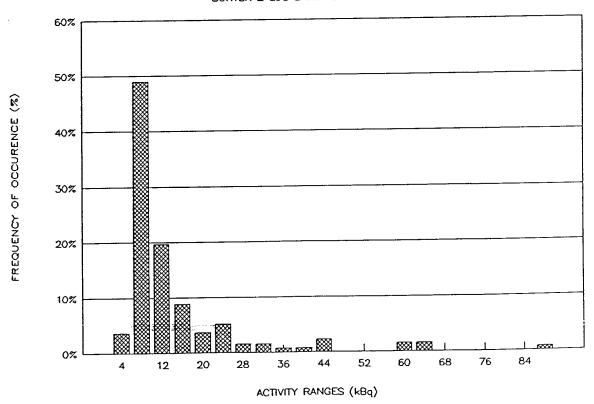
2-SEC RECORDS WITH SORTS

3.00 Test (No process soil)

SORTER 2 LOG DATA FOR 30-Jun-93



JA SOIL CLEANUP PLANT HOT PARTICLES
SORTER 2 LOG DATA FOR 30-Jun-93



SORTER 1 02-Jul-93					
AVERAGE BACKGROUND COUNT RATE	0.7	73 ± 0	).05 c/sec		
SORTER SOIL DENSITY	1.2	25 tons/m³			
GROUND SOIL DENSITY	1.6	55 tons/m³			
drooms sole sensiti			CONTAMINATED	CLEAN	
MASS TOTAL			0.92 tons	68.4 to	ns
MAXIMUM/SORT			58.2 kg	58.2 kg	
MINIMUM/SORT			0.7 kg	50.2 kg	
WEIGHT RECOVERY OR VOLUME RECO	WEDY				98.7%
EQUIVALENT SOIL-IN-GROUND	VERT		0.73 yd³	54.2 yd	54.9 yd <sup>3</sup> /day
EGGIANTENI 2011-IN-GKOOMO			, .	·	
PARTICLE ACTIVITY (MAXIMUM EST	(IMATE)				
TOTAL			18,518 kBq		
MAXIMUM/SORT			1,763 kBq		
MINIMUM/SORT			2.9 kBq		
DISPERSED + PARTICLE (REALISTI	C ESTIMATE) ACTIVITY		6,387 kBq	8,790 kB	q
MAXIMUM/SORT			1202 kBq	21 kB	Р
MINIMUM/SORT			0 Bq	-3 kB	P
SPECIFIC ACTIVITY			6,963 Bq/kg	129 Bq	/kg
WORK HISTORY					
WORK DAY START	MA 00:60		WORK DAY END	04:30 PM	
PLANT START-UP	MA 00:00		PLANT SHUT-DOWN	04:30 PM	
START SOIL PROCESSING	09:27 AM		END SOIL PROCESSING	04:03 PM	
LUNCH START	11:30 AM		LUNCH PERIOD	0.0 hr	
Work Hours			10.5 hr		
AVAILABLE HOUR	25		7.5 hr		
	HOURS (total 20-sec	records)	6.61 hr		
DOWN-TIME	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	•	0.89 hr		
TOTAL SYSTEM F	PAUSE		0.00 hr		
NONAVAILABLE H			3.0 hr		
START-UP			0.45 hr		
SHUT-DOWN			0.44 hr		
PLANT PERFORM	NCE		88.1%		
PRODUCTIVITY			63.0%		
TOTAL SOIL PROCESSING RECORDS	(2-SEC and 20-SEC)		2,011		
NONPROCESS RECORDS (Test, cali			1		
20-SEC PROCESS RECORDS			1,190		
TOTAL SORT			1 MD>0 & MND=0		
NO SORT			729 AD=0 & MD=0 &	MND>0	
SOME SORT			460 AD>0&0 <md<mnd< td=""><td>max&amp;MND<mndm< td=""><td>ax</td></mndm<></td></md<mnd<>	max&MND <mndm< td=""><td>ax</td></mndm<>	ax
UNEXPLAINED RE	CORDS		0		
0 <ad<1kbq &="" md<="" td=""><td>_</td><td></td><td></td><td>UNEXPLAIN</td><td>PAUSE</td></ad<1kbq>	_			UNEXPLAIN	PAUSE
•	0 MM & 0:			TIME	TIME
	0 MM & 0:			None	None
ACT_P <5 kBq	173 21.	1%			

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2-SEC COUNT PERIODS	11,9	200
2-SEC RECORDS WITH SORTS	8	321 (ACT_P >0 kBq)
2-SEC RECORDS WITH POSITIVES	IN >1 DETECT	TOR
2 DETECTORS	171	79.9%
3 DETECTORS	40	18.7%
4 DETECTORS	3	1.4%
5 DETECTORS	0	0.0%
6 DETECTORS	0	0.0%
7 DETECTORS	0	0.0%
8 DETECTORS	0	0.0%
TOTAL	2	214
NET 2-SEC RECORDS WITH SORTS	6	507
2-SEC PERIODS WITH NO SORTS	11,2	.93
AVG TIME BETWEEN 2-SEC SORTS	39	.2 sec

1-GATE S	ORTS	426	ACT_ND	NUMBER	SPEC_A		ACT_P		FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)		(pg)	(#)		(kBq)
1	3	0.7%	-14000	0	-241		4000	49	6.0%	4
2	23	5.4%	-12000	0	-206		8000	378	46.0%	8
3	44	10.3%	-10000	0	-172		12000	140	17.1%	12
4	84	19.7%	-8000	0	-137		16000	71	8.6%	16
5	97	22.8%	-6000	0	-103		20000	29	3.5%	20
6	77	18.1%	-4000	0	-69		24000	23	2.8%	24
7	83	19.5%	-2000	3	-34		28000	14	1.7%	28
8	15	3.5%	0	17	0		32000	13	1.6%	32
TOTAL	426		2000	72	34		36000	15	1.8%	36
			4000	154	69		40000	9	1.1%	40
2-GATE S	ORTS	395	6000	218	103		44000	5	0.6%	44
DETECTR	SORTS	FREQ%	8000	230	137		48000	10	1.2%	48
8			10000	207	172		52000	12	1.5%	52
9	10	2.5%	12000	138	206		56000	1	0.1%	56
10	<b>3</b> 6	9.1%	14000	87	241		60000	2	0.2%	60
11	65	16.5%	16000	40	275		64000	10	1.2%	64
12	83	21.0%	18000	15	309		68000	3	0.4%	68
13	97	24.6%	20000	9	344		72000	4	0.5%	72
14	63	15.9%	22000	1	378		76000	0	0.0%	76
15	41	10.4%	24000	0	412		80000	1	0.1%	80
TOTAL	395		26000	0	447		84000	0	0.0%	84
			>28000	0	0		>84000	32	3.9%	>84
			TOTAL	1191			TOTAL	821		
SUMMARY	TOTALS									
		LE EVENTS	798		SORTS BY	ONE	GATE ONLY	426		
		CLE EVENTS	379		SORTS BY			395		
	ISTRIBUTE		80							
U										

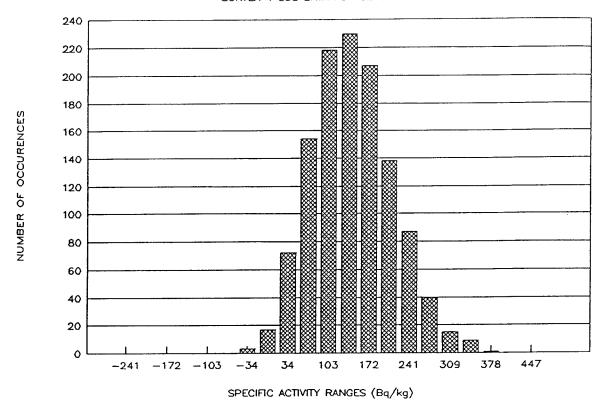
### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

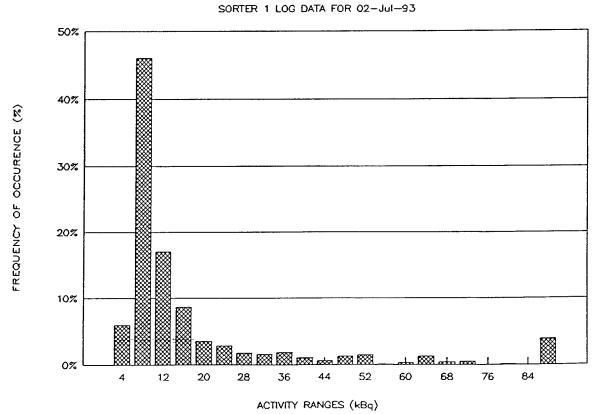
2.00 Empty belt

3.00 Test (No process soil)

SORTER 1 LOG DATA FOR 02-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES



SORTER 2	02-Jul -93										
AVERAGE BACKGROU	ND COUNT RATE		0.80	±	0.01	c/sec					
SORTER SOIL DENS			1.25	tons/m	3						
GROUND SOIL DENS			1.65	tons/m	3						
						CONTAM	INATED	CLEAN			
MASS TOTAL						0.96	tons	67.9	tons		
MAXIMUM/S	ORT					7.3	kg	58.3	kg		
MINIMUM/S						0.7	kg .	51	kg		
WEIGHT RECOVERY	OR VOLUME RECOVERY									98.6%	
EQUIVALENT SOIL-	IN-GROUND					0.76	yd³	53.8	$\lambda q_2$	54.6 yd³/day	
PARTICLE ACTIVIT	Y (MAXIMUM ESTIMATE	•									
TOTAL						15,668	kBq				
MAXIMUM/S	ORT					647	kBq				
MINIMUM/S	ORT					2.7	kBq				
DISPERSED + PART	ICLE (REALISTIC EST	IMATE) ACTIVI	[TY			5,699	kBq	4,792	kBq		
MAXIMUM/S						342	kBq	20	kBq		
MINIMUM/S	ORT					0	Bq	-10	kBq		
SPECIFIC	ACTIVITY					5,926	Bq/kg	71	Bq/kg		
WORK HISTORY											
WORK DAY	START	06:00 AM				WORK D	AY END	04:30 PM			
PLANT STAI	RT-UP	09:00 AM				PLANT :	SHUT-DOWN	04:30 PM			
START SOI	L PROCESSING	09:29 AM				END SO	IL PROCESSING	04:02 PM			
LUNCH STAI	RT	11:30 AM				LUNCH	PER I OD	0.0	hr		
					,						
1	HORK HOURS						10.5 hr				
	AVAILABLE HOURS						7.5 hr				
•	ACTUAL PROCESS HOUR	S (total 20-s	sec re	cords)			6.56 hr				
1	DOWN-TIME						0.94 hr				
1	TOTAL SYSTEM PAUSE						0.01 hr				
1	NONAVAILABLE HOURS						3.0 hr				
\$	START-UP						0.49 hr				
•	NWOD-TUHS						0.45 hr				
ŧ	PLANT PERFORMANCE						87.5%				
Į.	PRODUCTIVITY						62.5%				
	SSING RECORDS (2-SE		)				2,099				
	OS (Test, calibrati	on, etc)					7				
	OCESS RECORDS					1,181					
	TOTAL SORT						MD>0 & MND=0				
	NO SORT						AD=0 & MD=0 &		10		
	SOME SORT						AD>0&0 <md<mnd< td=""><td>max&amp;mnU<mn< td=""><td>Xemur</td><td></td><td></td></mn<></td></md<mnd<>	max&mnU <mn< td=""><td>Xemur</td><td></td><td></td></mn<>	Xemur		
	JNEXPLAINED RECORDS					0				DALICE	
(	O <ad<1kbq &="" md="">0</ad<1kbq>	2						UNEXPLAIN	Y 1	PAUSE	
	AD=0 & M							TIME		TIME	
	AD<0 & M							12:19:52		13:10	
,	ACT_P <5 kBq	137	14.9%					15:44:52			

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11,810

2	-2EC CC	ONI PEKTODS				11,010				
		2-SEC RECORE	S WITH S	ORTS		918	(ACT_P >0 kBq)			
		2-SEC RECORD	S WITH P	OSITIVES	IN >1 DE	ETECTOR				
		ā	2 DETECTO	RS	198		83.5%			
		3	S DETECTO	RS	36		15.2%			
		4	DETECTO	RS	3		1.3%			
		5	DETECTO	RS	0		0.0%			
		6	DETECTO	RS	0		0.0%			
		7	DETECTO	RS	0		0.0%			
		8	DETECTO	RS	0		0.0%			
		1	OTAL			237				
		NET 2-SEC RE	CORDS WI	TH SORTS		681				
		2-SEC PERIOD	S WITH N	O SORTS		11,129				
		AVG TIME BET	WEEN 2-S	EC SORTS		34.7	sec			
1-GATE S	ORTS	474	ACT_ND	NUMBER	SPEC_A		ACT_P	SORT	FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)		(Bq)	(#)		(kBq)
1	19	4.0%	-14000	0	-240		4000	44	4.8%	4
. 2	54	11.4%	-12000	0	-206		8000	420	45.8%	8
3	97		-10000	1	-172		12000	164	17.9%	12
4	108		-8000	1	-137		16000	91	9.9%	16
5	94	19.8%	-6000	9	-103		20000	32	3.5%	20
6	62	13.1%	-4000	27	-69		24000	29	3.2%	24
7	33	7.0%	-2000	65	-34		28000	16	1.7%	28
8	7	1.5%	0	131	0		32000	11	1.2%	32
TOTAL	474		2000	194	34		36000	9	1.0%	36
			4000	204	69		40000	14	1.5%	40
2-GATE SC	ORTS	444	6000	204	103		44000	12	1.3%	44
DETECTR	SORTS	FREQ%	8000	117	137		48000	11	1.2%	48
8			10000	<b>9</b> 6	172		52000	10	1.1%	52
9	34	7.7%	12000	62	206		56000	2	0.2%	56
10	62	14.0%	14000	<b>3</b> 5	240		60000	5	0.5%	60
11	108	24.3%	16000	28	274		64000	2	0.2%	64
12	99	22.3%	18000	6	309		68000	4	0.4%	68
13	81	18.2%	20000	8	343		72000	5	0.5%	72
14	43	9.7%	22000	0	377		76000	1	0.1%	76
15	17	3.8%	24000	0	412		80000	5	0.5%	80
TOTAL	444		26000	0	446		84000	4	0.4%	84
			>28000	0	0		>84000	27	2.9%	>84

1188

TOTAL

902

416

### REC CODE EXPLANATION

SUMMARY TOTALS

- 1.00 Source check (Soil on belt)
- 2.00 Empty belt

HOT PARTICLE EVENTS

MULTIPARTICLE EVENTS

DISTRIBUTED EVENTS

2-SEC COUNT PERIODS

3.00 Test (No process soil)

SORTS BY ONE GATE ONLY

SORTS BY TWO GATES

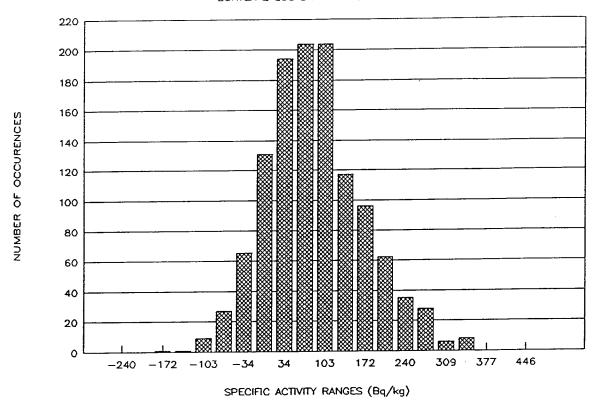
TOTAL

918

474

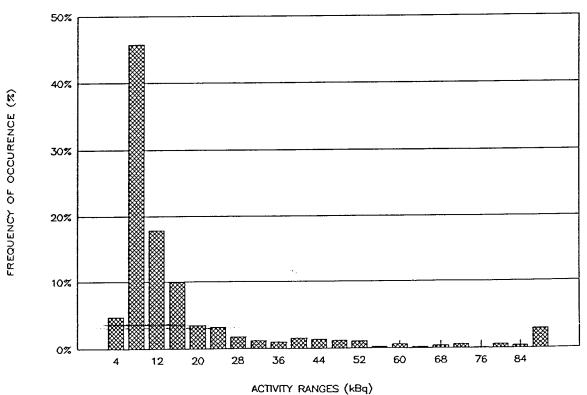
444

SORTER 2 LOG DATA FOR 02-Jul-93



### JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 2 LOG DATA FOR 02-Jul-93



SORTER 1 03-Jul-93				
AVERAGE BACKGROUND COUNT RATE	0.74 ± 0.	04 c/sec .		
SORTER SOIL DENSITY	1.25 tons/m³			
GROUND SOIL DENSITY	1.65 tons/m³			
		CONTAMINATED	CLEAN	
MASS TOTAL		0.24 tons	65.9 tor	าร
MAXIMUM/SORT		4.4 kg	58.2 kg	
MINIMUM/SORT		0.7 kg	53.9 kg	
				99.6%
WEIGHT RECOVERY OR VOLUME RECOVERY		0.40	52.2 yd³	
EQUIVALENT SOIL-IN-GROUND		0.19 yd³	J2.2 yu	32.4 ya /day
PARTICLE ACTIVITY (MAXIMUM ESTIMAT	E)			
TOTAL	•	6,592 kBq		
MAXIMUM/SORT		717 kBq		
MINIMUM/SORT		3.1 kBq		
		2 452 15	/ /00 15	
DISPERSED + PARTICLE (REALISTIC ES	TIMATE) ACTIVITY	2,152 kBq	4,499 kBq	•
MAXIMUM/SORT		467 kBq	15 kBq -6 kBq	
MINIMUM/SORT		0 Bq	-6 K89	
SPECIFIC ACTIVITY		9,096 Bq/kg	00 BQ/	<b>v</b> a
WORK HISTORY				
WORK DAY START	05:00 AM	WORK DAY END	04:30 PM	
PLANT START-UP	05:00 AM	PLANT SHUT-DOWN	12:00 PM	
START SOIL PROCESSING	05:23 AM	END SOIL PROCESSING	11:42 AM	
LUNCH START	11:30 AM	LUNCH PERIOD	0.5 hr	
HORK HOUSE		11.0 hr		
WORK HOURS  AVAILABLE HOURS		6.5 hr		
	RS (total 20-sec records)	6.31 hr		
DOWN-TIME	(total 20 000 1000 25)	0.19 hr		
TOTAL SYSTEM PAUSE		0.00 hr		
NONAVAILABLE HOURS		4.5 hr		
START-UP		0.40 hr		
SHUT-DOWN		0.30 hr		
PLANT PERFORMANCE		97.1%		
PRODUCTIVITY		57.4%		
	(30 ese)	4 7/7		
TOTAL SOIL PROCESSING RECORDS (2-S		1,367 7		
NONPROCESS RECORDS (Test, calibrat	ion, etc)			
20-SEC PROCESS RECORDS		1,136 0 MD>0 & MND=0		
TOTAL SORT		970 AD=0 & MD=0 &	Negume :	
NO SORT		166 AD>0&0		

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2-SEC COUNT PERIODS	11,	,360	
2-SEC RECORDS WITH SORTS		231 (ACT_P >0 kBq	()
2-SEC RECORDS WITH POSITIVES	IN >1 DETEC	CTOR	
2 DETECTORS	57	79.2%	
3 DETECTORS	12	16.7%	
4 DETECTORS	3	4.2%	
5 DETECTORS	0	0.0%	
6 DETECTORS	0	0.0%	
7 DETECTORS	0	0.0%	
8 DETECTORS	0	0.0%	
TOTAL		72	
NET 2-SEC RECORDS WITH SORTS		159	
2-SEC PERIODS WITH NO SORTS		,201	
AVG TIME BETWEEN 2-SEC SORTS	14	2.9 sec	

1-GATE	SORTS	116	ACT_ND	NUMBER	SPEC_A	ACT_P	SORT	FREQ%	ACT_P
DETECT		FREQ%	(Bq)	(#)	(Bq/kg)	(Bq)	(#)		(kBq)
•••									
1	1	0.9%	-14000	0	-241	4000	15	6.5%	4
2	5	4.3%	-12000	0	-206	8000	95	41.1%	8
3		9.5%	-10000	0	-172	12000	36		12
4		20.7%	-8000	1	-137	16000	17	7.4%	16
5		25.0%	-6000	1	-103	20000	9		20
6		23.3%	-4000	5	-69	24000	9	3.9%	24
7	17	14.7%	-2000	17	-34	28000	5		28
8	2	1.7%	0	72	0	32000	5	2.2%	32
TOTAL	116		2000	203	34	36000	3	1.3%	36
			4000	288	69	40000	0	0.0%	40
2-GATE	SORTS	115	6000	286	103	44000	3	1.3%	44
DETECT		FREQ%	8000	182	137	48000	2	0.9%	48
8			10000	70	172	52000	2		52
9	2	1.7%	12000	16	206	56000	4	1.7%	56
10	7	6.1%	14000	1	241	60000	5	2.2%	60
11	15	13.0%	16000	1	275	64000	3	1.3%	64
12	28	24.3%	18000	0	309	68000	2	0.9%	68
13		26.1%	20000	0	344	72000	1	0.4%	72
14	25	21.7%	22000	0	378	76000	1	0.4%	76
15	8	7.0%	24000	0	412	80000	0	0.0%	80
TOTAL	115		26000	0	447	84000	2	0.9%	84
			>28000	0	0	>84000	12	5.2%	>84
			TOTAL	1143		TOTAL	231		
SUMMAR	Y TOTALS								
		CLE EVENTS	224		SORTS BY	ONE GATE ONLY	116		
	MULTIPART	ICLE EVENTS	100		SORTS BY	TWO GATES	115		
	DISTRIBUT	ED EVENTS	0						

### REC CODE EXPLANATION

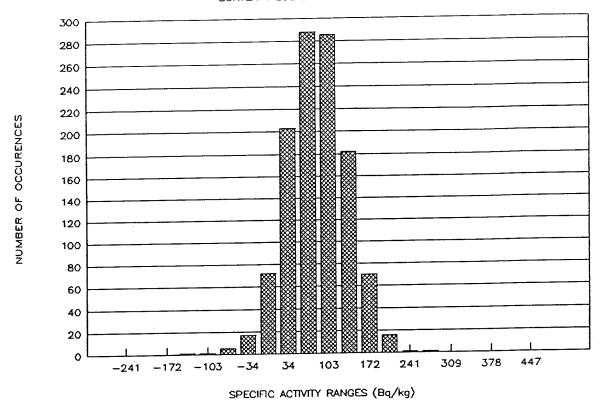
1.00 Source check (Soil on belt)

2.00 Empty belt

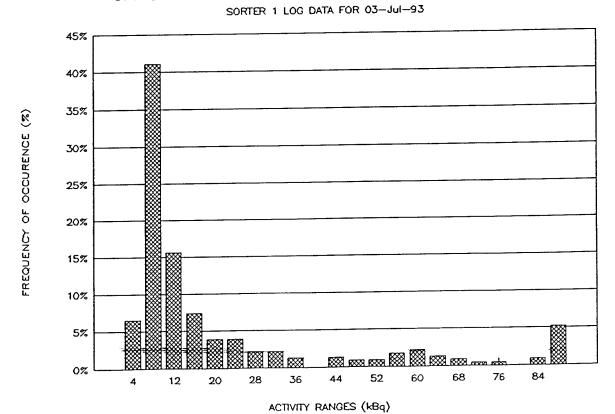
3.00 Test (No process soil)

2

SORTER 1 LOG DATA FOR 03-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES



SORTER 2 03-Jul-93 AVERAGE BACKGROUND COUNT RATE 0.80 ± 0.01 c/sec 1.25 tons/m3 SORTER SOIL DENSITY 1.65 tons/m3 GROUND SOIL DENSITY CLEAN CONTAMINATED 65.8 tons 0.24 tons MASS TOTAL 5.1 kg 58.3 kg MAXIMUM/SORT 0.7 kg 53.2 kg MINIMUM/SORT 99.6% WEIGHT RECOVERY OR VOLUME RECOVERY 52.4 yd3/day EQUIVALENT SOIL-IN-GROUND 0.19 yd3 52.2 yd3 PARTICLE ACTIVITY (MAXIMUM ESTIMATE) 4,257 kBq TOTAL 184 kBq MAXIMUM/SORT 2.9 kBq MINIMUM/SORT (686)kBq 1,451 kBq DISPERSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY 12 kBq 104 kBq MAXIMUM/SORT 0 Bq -10 kBq MINIMUM/SORT (10)Bq/kg 6,170 Bq/kg SPECIFIC ACTIVITY WORK HISTORY 04:30 PM 05:00 AM WORK DAY END WORK DAY START PLANT SHUT-DOWN 12:00 PM 05:00 AM PLANT START-UP END SOIL PROCESSING 11:40 AM START SOIL PROCESSING 05:23 AM 0.5 hr LUNCH PERIOD LUNCH START 11:30 AM 11.0 hr WORK HOURS 6.5 hr AVAILABLE HOURS 6.29 hr ACTUAL PROCESS HOURS (total 20-sec records) 0.21 hr DOWN-TIME 0.00 hr TOTAL SYSTEM PAUSE 4.5 hr NONAVAILABLE HOURS 0.39 hr START-UP SHUT-DOWN 0.32 hr 96.8% PLANT PERFORMANCE 57.2% PRODUCTIVITY TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC) 1,369 NONPROCESS RECORDS (Test, calibration, etc) 10 1,133 20-SEC PROCESS RECORDS 0 MD>0 & MND=0 TOTAL SORT 970 AD=0 & MD=0 & MND>0 NO SORT 163 AD>0&0<MD<MNDmax&MND<MNDmax SOME SORT 0 UNEXPLAINED RECORDS UNEXPLAIN **PAUSE** 0 0<AD<1kBq & MD>0 TIME AD=0 & MD 0 TIME None AD<0 & MD 0 None

File S2JA0703.WR1

ACT\_P <5 kBq

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1

13.6%

32

2-SEC COUNT PERIODS	11,330	
2-SEC RECORDS WITH SORTS	236	(ACT_P >0 kBq)
2-SEC RECORDS WITH POSITIVES	IN >1 DETECTOR	
2 DETECTORS	68	87.2%
3 DETECTORS	9	11.5%
4 DETECTORS	1	1.3%
5 DETECTORS	0	0.0%
6 DETECTORS	0	0.0%
7 DETECTORS	0	0.0%
8 DETECTORS	0	0.0%
TOTAL	78	
NET 2-SEC RECORDS WITH SORTS	158	
2-SEC PERIODS WITH NO SORTS	11,172	
AVG TIME BETWEEN 2-SEC SORTS	143.4	sec
SORTS 127 ACT NO NUMBER	SPEC A	ACT P

1-GATE	SORTS	127	ACT_ND	NUMBER	SPEC_A	ACT_P	SORT	FREQ%	ACT_P
DETECTI	R SORTS	FREQ%	(Bq)	(#)	(Bq/kg)	(Bq)	(#)		(kBq)
1	1	0.8%	-14000	2	-240	4000	12	5.1%	4
2	13	10.2%	-12000	0	-206	8000	78	33.1%	8
3	21	16.5%	-10000	• 1	-172	12000	41	17.4%	12
4	31	24.4%	-8000	4	-137	16000	25	10.6%	16
5	30	23.6%	-6000	26	-103	20000	15	6.4%	20
6	21	16.5%	-4000	122	-69	24000	16	6.8%	24
7	8	6.3%	-2000	232	-34	28000	9	3.8%	28
8	2	1.6%	0	289	0	32000	4	1.7%	32
TOTAL	127		2000	247	34	36000	7	3.0%	36
			4000	141	69	40000	4	1.7%	40
2-GATE	SORTS	109	6000	60	103	44000	6	2.5%	44
DETECT	R SORTS	FREQ%	8000	14	137	48000	1	0.4%	48
8			10000	4	172	52000	2	0.8%	52
9	4	3.7%	12000	1	206	56000	0	0.0%	56
10	12	11.0%	14000	0	240	60000	4	1.7%	60
11	21	19.3%	16000	0	274	64000	1	0.4%	64
12	29	26.6%	18000	0	309	68000	3	1.3%	68
13	24	22.0%	20000	0	343	72000	4	1.7%	72
14	16	14.7%	22000	0	377	76000	1	0.4%	76
15	3	2.8%	24000	0	412	80000	1	0.4%	80
TOTAL	109		26000	0	446	84000	0	0.0%	84
			>28000	0	0	>84000	2	0.8%	>84
			TOTAL	1143		TOTAL	236		
SUMMARY	TOTALS								
	HOT PARTIC	LE EVENTS	215		SORTS BY	ONE GATE ONLY	127		
	MULTIPARTI	CLE EVENTS	108		SORTS BY	TWO GATES	109		
	DISTRIBUTE	D EVENTS	0						

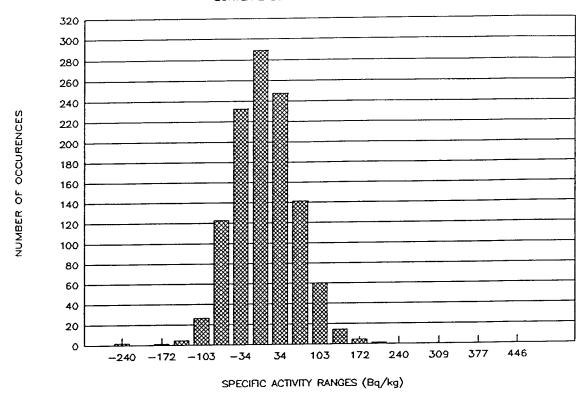
### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

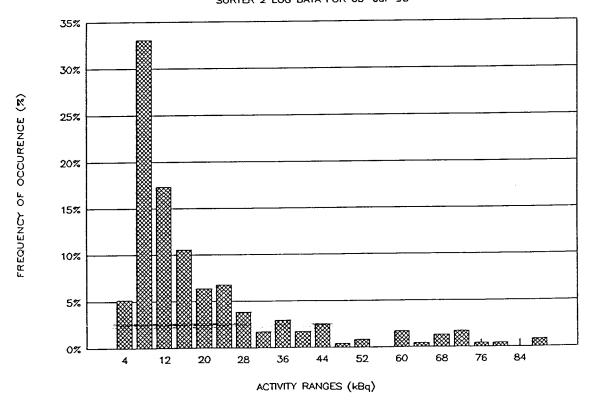
2.00 Empty belt

3.00 Test (No process soil)

SORTER 2 LOG DATA FOR 03-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES SORTER 2 LOG DATA FOR 03-Jul-93



AVERAGE BACKGROUND COUNT RATE  SORTES SOIL DERSITY  1.4 tons/m²  GROUND SOIL DERSITY  1.5 tons/m²  CONTAMINATED  CLEAN  CLEAN  CLEAN  CONTAMINATED  CLEAN  C	SORTER 4 05-Jul-93									
MAXIMAM/SORT   1.65 tons/mi   MAXIMAM/SORT   1.65 tons/mi   1.65 tons/mi   1.60 tons	AVERAGE BACKGROUND COUNT RATE		0.71	t	0.04	c/sec				
MASS TOTAL  MASS TOTAL  MAXIMEM/SORT  MINIMEM/SORT  MINIMEM/SORT  MINIMEM/SORT  MINIMEM/SORT  MEGHT RECOVERY OR VOLUME RECOVERY  EQUIVALENT SOIL—IN-GROUND  PARTICLE ACTIVITY (MAXIMUM ESTIMATE)  TOTAL  MAXIMM/SORT  TOTAL  MAXIMM/SORT  MINIMM/SORT  MINIMM/SORT  MINIMM/SORT  MINIMM/SORT  MINIMM/SORT  MINIMM/SORT  MINIMM/SORT  MINIMM/SORT  MINIMM/SORT  MAXIMM/SORT  MINIMM/SORT  MAXIMM/SORT  MINIMM/SORT  MAXIMM/SORT  MINIMM/SORT  MAXIMM/SORT  MAXIMM/SORT  MAXIMM/SORT  MORE OAY START  MORE OAY	SORTER SOIL DENSITY		1.4	tons/m	3					
MAXIMUM/SORT   4.1 kg   65.2 kg	GROUND SOIL DENSITY		1.65	tons/m	3					
MOXIMUM/SORT						CONTAM	INATED	CLEAN		
MINIMAN/SORT 0.8 kg 61.2 kg  WEIGHT RECOVERY OR VOLUME RECOVERY EQUIVALENT SOIL-IN-GROUND  PARTICLE ACTIVITY (MAXIMUM ESTIMATE)  TOTAL  TOTAL  TOTAL  ANALYMMYSORT  DISPERSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY  MAXIMUM/SORT  MAXIMUM/SORT  TO BQ Q 7.7 kBQ  PARTICLE ACTIVITY  1,378 kBQ  9,906 kBQ  42 kBQ  42 kBQ  45 KBQ  46,540 BQ/kg  85 BQ/kg  WORK DAY START  PLANT START-UP  05:00 AM  PLANT START-DOWN  PLANT START-UP  MORK HOURS  AVAILABLE HOURS  AVAILABLE HOURS  ACTUAL PROCESS HOURS (total 20-sec records)  DOWN-TIME  DOWN-TIME  TOTAL STSTEM PAUSE  NOWAWAYLABLE HOURS  START-UP  11:30 AM  LUNCH PERIOD  0.09 hr  PLANT START-UP  0.09 hr  PLANT START-UP  0.09 hr  PLANT START-UP  0.09 hr  PLANT PERFORMANCE  NOWAWAYLABLE HOURS  START-UP  0.09 hr  PLANT PERFORMANCE  PRODUCTIVITY  86.11X  PROCESSING (2-SEC and 20-SEC)  NOWPROCESS RECORDS (3-SEC and 20-SEC)  NOWPROCESS RECORDS (4-SEC and 20-SEC)  NOWPROCES	MASS TOTAL					0.21	tons	116.0	tons	
METIGHT RECOVERY OR VOLUME RECOVERY   0.17 yd¹   92.0 yd²   92.2 yd²/day	MAXIMUM/SORT					4.1	kg	65.2	kg	
PARTICLE ACTIVITY (MAXIMUM ESTIMATE)   TOTAL   3,276 kBq	MINIMUM/SORT					0.8	kg	61.2	kg	
PARTICLE ACTIVITY (MAXIMUM ESTIMATE)   TOTAL   MAXIMUM/SORT   MA	DEIGHT RECOVERY OR VOLUME RECOVERY									99.8%
PARTICLE ACTIVITY (MAXIMUM ESTIMATE)  TOTAL  MAXIMUM/SORT  MINIMUM/SORT  MINIMUM/SORT  MAXIMUM/SORT  MAXIMUM/SORT  MAXIMUM/SORT  MAXIMUM/SORT  MAXIMUM/SORT  SPECIFIC ACTIVITY  MORK DAY START  MORK DOUB START SOIL PROCESSING  MORK DOUB START SOIL PROCESSING  MORK HUNCH START  MORK DOUB START  MORK MOURS  MORK DOUB START  MORK DOUB START  MORK DOUB START-UP  MORK MOURS  MORK DOUB START-UP  MORK MOURS  MORK DOUB START-UP  MORK MOURS  MORK DOUB START-UP  MORK DOUB START-UP  MORK DOUB START-UP  MORK MORK DOUB START-UP  MORK DAY START						0.17	vd³	92.0	vd³	
TOTAL  MAXIMIM/SORT  HINIMIM/SORT  AXAMIM/SORT  DISPERSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY  DISPERSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY  MAXIMIM/SORT  SORT  SPECIFIC ACTIVITY  MORK DAY START  O 5:00 AM  PLANT START-UP  O 5:00 AM  PLANT SHUT-DOWN  PLANT START-UP  START SOIL PROCESSING  O 5:59 AM  END SOIL PROCESSING  O 0:58 PM  LUNCH START  11:30 AM  LUNCH PERIOD  O 0.0 hr  AVAILABLE HOURS  ACTUAL PROCESS HOURS (total 20-sec records)  DOWN-TIME  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  START-UP  SOUN-TIME  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  START-UP  SOUN-TIME  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  O .0 hr  START-UP  SIMIT-DOWN  PLANT PERFORMANCE  RONAVAILABLE HOURS  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  NONPROCESS RECORDS (2-SEC and 20-SEC)  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  TOTAL SOIL PROCESSING RECORDS  TOTAL SORT  NO SORT  TOTAL SOLD PROCESSING RECORDS  TOTAL SORT  NO SORT  UNEXPLAINED RECORDS  O WOO-0 & MND-0  SOME SORT  UNEXPLAINED RECORDS  O WOO-0 & MD-0 & MND-0  SOME SORT  UNEXPLAINED RECORDS  O WOO-0 & MD-0 & MND-0  TIME	EGGIANCENI SOLE IN GROOMS					••••	,-		, -	, , , , , , , , ,
TOTAL  MAXIMIM/SORT  HINIMIM/SORT  AXAMIM/SORT  DISPERSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY  DISPERSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY  MAXIMIM/SORT  SORT  SPECIFIC ACTIVITY  MORK DAY START  O 5:00 AM  PLANT START-UP  O 5:00 AM  PLANT SHUT-DOWN  PLANT START-UP  START SOIL PROCESSING  O 5:59 AM  END SOIL PROCESSING  O 0:58 PM  LUNCH START  11:30 AM  LUNCH PERIOD  O 0.0 hr  AVAILABLE HOURS  ACTUAL PROCESS HOURS (total 20-sec records)  DOWN-TIME  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  START-UP  SOUN-TIME  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  START-UP  SOUN-TIME  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  O .0 hr  START-UP  SIMIT-DOWN  PLANT PERFORMANCE  RONAVAILABLE HOURS  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  NONPROCESS RECORDS (2-SEC and 20-SEC)  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  TOTAL SOIL PROCESSING RECORDS  TOTAL SORT  NO SORT  TOTAL SOLD PROCESSING RECORDS  TOTAL SORT  NO SORT  UNEXPLAINED RECORDS  O WOO-0 & MND-0  SOME SORT  UNEXPLAINED RECORDS  O WOO-0 & MD-0 & MND-0  SOME SORT  UNEXPLAINED RECORDS  O WOO-0 & MD-0 & MND-0  TIME	PARTICLE ACTIVITY (MAXIMUM ESTIMATE	)								
DISPERSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY						3,276	kBq			
DISPERSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY	MAXIMUM/SORT					89	kBq			
MAXIMUM/SORT  MINIMUM/SORT  SPECIFIC ACTIVITY  MORK DAY START  05:00 AM  PLANT START-UP  START SOIL PROCESSING  MORK HOURS  LUNCH START  MORK HOURS  AVAILABLE HOURS  AVAILABLE HOURS  AVAILABLE HOURS  ACTUAL PROCESS HOURS (total 20-sec records)  DOWN-TIME  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  START-UP  SHAPPODUCTIVITY  MORK HOURS  11.5 hr  ACTUAL PROCESS HOURS (total 20-sec records)  DOWN-TIME  10:50 hr  10:50						3.7	kBq			
MAXIMUM/SORT  HINHUM/SORT  SPECIFIC ACTIVITY   MORK DAY START  05:00 AM  PLANT START-UP  START SOIL PROCESSING  MORK HOURS  LUNCH START  MORK HOURS  AVAILABLE HOURS  AVAILABLE HOURS  AVAILABLE HOURS  ACTUAL PROCESS HOURS (total 20-sec records)  DOWN-TIME  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  START-UP  SOLO AM  LUNCH START  11:50 hr  ACTUAL PROCESS HOURS (total 20-sec records)  DOWN-TIME  10:50 hr  START-UP  0.00 hr  START-UP  0.99 hr  SHUT-DOWN  PLANT PERFORMANCE  PRODUCTIVITY  86:1%  NONPROCESS RECORDS  1,783  TOTAL SORT  NO MD>0 & MND=0  NO MD>0 & MND=0  NO MD>0 & MND=0  NO MD>0 & MND=0  SORE SORT  181 AD>00 AD 0 & MND=0  TIME  AD=0 & MD 0 0  UNEXPLAIN PAUSE  NO MD>0  TIME  TIME  TIME  11:50  TIME	·									
### NINIMUM/SORT SPECIFIC ACTIVITY 6,540 Bq/kg 85 Bq/kg  WORK HISTORY    WORK DAY START   05:00 AM   MORK DAY END   04:30 PM	DISPERSED + PARTICLE (REALISTIC EST	IMATE) ACTIV	VITY			1,378	kBq	9,906	kBq	
SPECIFIC ACTIVITY	MAXIMUM/SORT					56	kBq	24	kBq	
MORK HISTORY	MINIMUM/SORT					0	Bq	-7	kBq	
WORK DAY START   05:00 AM						6,540	8q/kg	85	Bq/kg	
WORK DAY START   05:00 AM										
PLANT START-UP	WORK HISTORY									
START SOIL PROCESSING   05:59 AM   END SOIL PROCESSING   03:58 PM										
LUNCH START   11:30 AM   LUNCH PERIOD   0.0 hr										
WORK HOURS										
AVAILABLE HOURS  ACTUAL PROCESS HOURS (total 20-sec records)  DOWN-TIME  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  START-UP  SHUT-DOWN  SHUT-DOWN  PLANT PERFORMANCE  PRODUCTIVITY  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  NONPROCESS RECORDS  20-SEC PROCESS RECORDS  TOTAL SORT  NO MD>0 & MND=0  NO SORT  SOME SORT  UNEXPLAINED RECORDS  AD=0 & MD >0  AD=0 & MD >0  TIME  TIME  AD<0 & MD >0  NOIE TIME  TIME  AD<0 & MD >0  NOIE TIME  TIME  AD<0 & MD >0  NOIE TIME  TIME  NOIE TIME  NOIE TIME  NOIE TIME  TIME  NOIE TIME  NOI	LUNCH START	11:30 AM				LUNCH I	PER100	0.0	ħГ	
ACTUAL PROCESS HOURS (total 20-sec records)  DOWN-TIME  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  O.0 hr  START-UP  SHUT-DOWN  PLANT PERFORMANCE  PRODUCTIVITY  B6.1%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  NONPROCESS RECORDS  1,783  TOTAL SORT  NO MD>0 & MND=0  1,602 AD=0 & MD=0 & MND=0  O <ad<1kbq &="" md="">0  O AD&lt;1kBq &amp; MD&gt;0  O AD=0 &amp; MD O MD O</ad<1kbq>	WORK HOURS						11.5 hr			
DOWN-TIME	AVAILABLE HOURS						11.5 hr			
TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  START-UP  SHUT-DOWN  PLANT PERFORMANCE  PRODUCTIVITY  86.1%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  NONPROCESS RECORDS (Test, calibration, etc)  20-SEC PROCESS RECORDS  1,783  TOTAL SORT  NO MD>0 & MND=0  NO SORT  1,602 AD=0 & MD=0 & MND>0  O <ad<1nbq &="" md="">0  UNEXPLAINED RECORDS  0 AD=0 &amp; MD &gt; 0  UNEXPLAIN PAUSE  AD=0 &amp; MD = 0  AD=0 &amp; MD = 0  TIME  TIME  AD&lt;0 &amp; MD = 0  AD=0 &amp; MD = 0  TIME  TIME  TIME  AD&lt;0 &amp; MD = 0  NO N</ad<1nbq>	ACTUAL PROCESS HOUR	S (total 20-	-sec re	cords)			9.91 hr			
NONAVAILABLE HOURS   0.0 hr	DOWN-TIME						1.59 hr			
START-UP   0.99 hr	TOTAL SYSTEM PAUSE						0.06 hr			
SHUT-DOWN PLANT PERFORMANCE 86.1% PRODUCTIVITY 86.1%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC) 1,933 NONPROCESS RECORDS (Test, calibration, etc) 8 20-SEC PROCESS RECORDS 1,783 TOTAL SORT 0 MD>0 & MND=0 1,602 AD=0 & MD=0 & MND>0  O <ad<1kbq &="" md="">0 0 0 0 VNEXPLAINED RECORDS 0 VNEXPLAIN PAUSE AD=0 &amp; MD 0 0 VNEXPLAIN PAUSE AD=0 &amp; MD 0 0 None 14:50</ad<1kbq>	NONAVAILABLE HOURS						0.0 hr			
PLANT PERFORMANCE PRODUCTIVITY  86.1%  86.1%  1,933  NONPROCESSING RECORDS (2-SEC and 20-SEC)  1,933  NONPROCESS RECORDS (Test, calibration, etc)  20-SEC PROCESS RECORDS  1,783  TOTAL SORT  NO SORT  NO SORT  1,602 AD=0 & MND=0  NO SORT  1,602 AD=0 & MD=0 & MND>0  SOME SORT  UNEXPLAINED RECORDS  0 <ad<1kbq &="" md="">0  0 <ad<1kbq &="" md="">0  0</ad<1kbq></ad<1kbq>	START-UP						0.99 hr			
PRODUCTIVITY 86.1%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC) 1,933  NONPROCESS RECORDS (Test, calibration, etc) 8  20-SEC PROCESS RECORDS 1,783  TOTAL SORT 0 MD>0 & MND=0  NO SORT 1,602 AD=0 & MD=0 & MND>0  SOME SORT 181 AD>0&0 <md<mndmax&mnd<mndmax &="" 0="" md="" o<ad<1kbq="" records="" unexplained="">0 0 UNEXPLAIN PAUSE  AD=0 &amp; MD 0 UNEXPLAIN PAUSE  AD=0 &amp; MD 0 TIME TIME  AD&lt;0 &amp; MD 0 None 14:50</md<mndmax&mnd<mndmax>	SHUT-DOWN						0.53 hr			
TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  NONPROCESS RECORDS (Test, calibration, etc)  20-SEC PROCESS RECORDS  TOTAL SORT  NO SORT  NO SORT  UNEXPLAINED RECORDS  O <ad<1kbq &="" md="">0  AD=0 &amp; MD  AD=0 &amp; MD  O  UNEXPLAIN  UNEXPLAIN  AD&lt;0 &amp; MD  UNEXPLAIN  UNEXPLAIN  AD&lt;0 &amp; MD  UNEXPLAIN  UNEXPLAIN  AD&lt;0 &amp; MD  UNEXPLAIN  AD  UNEXPLAIN  TIME  TIME  AD&lt;0 &amp; MD  TIME  TIME  None  14:50</ad<1kbq>	PLANT PERFORMANCE						86.1%			
TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  NONPROCESS RECORDS (Test, calibration, etc)  20-SEC PROCESS RECORDS  1,783  TOTAL SORT  0 MD>0 & MND=0  1,602 AD=0 & MD=0 & MND>0  SOME SORT  181 AD>0&0	PRODUCTIVITY						86.1%			
NONPROCESS RECORDS (Test, calibration, etc)   8   20-SEC PROCESS RECORDS   1,783	TOTAL SOLL PROCESSING RECORDS (2-SE	r and 20-sec	.,				1 033			`
20-SEC PROCESS RECORDS  TOTAL SORT  NO SORT  SOME SORT  UNEXPLAINED RECORDS  0 < AD < 1 kBq & MD > 0  AD = 0 & MD > 0 & MND = 0  1,783  1,783  0 MD > 0 & MND = 0  4ND = 0 & MND > 0  UNEXPLAIN PAUSE  AD = 0 & MD			••							
TOTAL SORT 0 MD>0 & MND=0  NO SORT 1,602 AD=0 & MD=0 & MND>0  SOME SORT 181 AD>0&0 <md<mndmax&mnd<mndmax &="" 0="" md="" o<ad<1kbq="" records="" unexplained="">0 0 UNEXPLAIN PAUSE  AD=0 &amp; MD 0 TIME TIME  AD&lt;0 &amp; MD 0 None 14:50</md<mndmax&mnd<mndmax>		,,				1.783	_			
NO SORT       1,602 AD=0 & MD=0 & MND>0         SOME SORT       181 AD>0&0 <md<mndmax&mnd<mndmax< td="">         UNEXPLAINED RECORDS       0         0       UNEXPLAIN       PAUSE         AD=0 &amp; MD       0       TIME       TIME         AD&lt;0 &amp; MD</md<mndmax&mnd<mndmax<>							MD>0 & MND=0			
SOME SORT       181 AD>0&0 <md<mndmax&mnd<mndmax< td="">         UNEXPLAINED RECORDS       0         0<ad<1kbq &="" md="">0       UNEXPLAIN PAUSE         AD=0 &amp; MD       0       TIME       TIME         AD&lt;0 &amp; MD</ad<1kbq></md<mndmax&mnd<mndmax<>								MND>0		
UNEXPLAINED RECORDS 0  0 < AD < 1 kBq & MD > 0						•			lDmax	
0 <ad<1kbq &="" md="">0       UNEXPLAIN PAUSE         AD=0 &amp; MD 0       TIME TIME         AD&lt;0 &amp; MD 0</ad<1kbq>										
AD=0 & MD 0 TIME TIME AD<0 & MD 0 None 14:50		0						UNEXPLAIN	i F	PAUSE
AD<0 & MD 0 None 14:50	· ·									
										14:50
			8.7%							

68

2	-SEC CO	UNT PERIODS				17,830					
		2-SEC RECORD	S WITH S	ORTS		150	(ACT_P	>0 kBq)			
		2-SEC RECORD			IN >1 DE	TECTOR					
			DETECTO		38		84.4%				
		3	DETECTO	RS	7		15.6%				
		4	DETECTO	RS	0		0.0%				
		5	DETECTO	RS	0		0.0%				
			DETECTO		0		0.0%				
			DETECTO		0		0.0%				
			DETECTO		0		0.0%				
			OTAL			45					
		NET 2-SEC RE		TH SORTS		105					
		2-SEC PERIOD				17,725					
		AVG TIME BET				339.6	sec				
		ATT THE DET									
1-GATE SO	ORTS	94	ACT_ND	NUMBER	SPEC_A			ACT_P	SORT	FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)			(Bq)	(#)		(kBq)
1	37	39.4%	-14000	0	-215			4000	4	2.7%	4
2	17	18.1%	-12000	0	-184			8000	57		8
3	15	16.0%	-10000	1	-153			12000	27	18.0%	12
4	10	10.6%	-8000	2	-123			16000	14	9.3%	16
5	5	5.3%	-6000	3	-92			20000	5	3.3%	20
6	3	3.2%	-4000	6	-61			24000	3	2.0%	24
7	5	5.3%	-2000	20	-31			28000	2	1.3%	28
8	2	2.1%	0	63	0			32000	1	0.7%	32
TOTAL	94		2000	185	31			36000	4	2.7%	36
			4000	307	61			40000	2	1.3%	40
2-GATE SO	ORTS	56	6000	409	92			44000	2	1.3%	44
DETECTR	SORTS	FREQ%	8000	372	123			48000	2	1.3%	48
									-		

TOTAL TOTAL SUMMARY TOTALS SORTS BY ONE GATE ONLY HOT PARTICLE EVENTS SORTS BY TWO GATES MULTIPARTICLE EVENTS DISTRIBUTED EVENTS

>28000

17.9%

25.0%

25.0%

7.1%

8.9%

8.9%

7.1%

### REC CODE EXPLANATION

TOTAL

1.00 Source check (Soil on belt)

2.00 Empty belt

3.00 Test (No process soil)

File S4JA0705.WR1

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>84

2.0%

1.3%

1.3%

2.7%

2.0%

4.0%

0.7%

1.3%

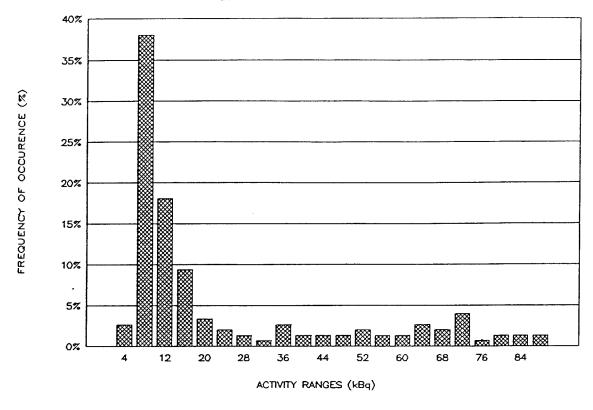
1.3%

1.3%

>84000

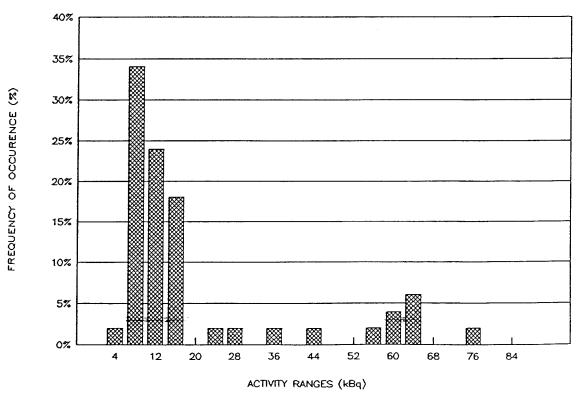
## JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 4 LOG DATA FOR 05-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 4 LOG DATA FOR 06-Jul-93



70

SORTER 1 06-Jul-93							
AVERAGE BACKGROUND COUNT RATE	0.68	± 0.04	c/sec				
SORTER SOIL DENSITY	1.25	tons/m³					
GROUND SOIL DENSITY	1.65	tons/m³					
			CONTAM	INATED	CLEAN		
MASS TOTAL			0.14	tons	30.4		
MAXIMUM/SORT			61.1	_	58.2	_	
MINIMUM/SORT			0.7	kg	54.6	kg	
A CONTRACT OF VOLUME DECOVER	v						99.5%
WEIGHT RECOVERY OR VOLUME RECOVER	.1		0.11	vd³	24.1	yd³	24.2 yd3/day
EQUIVALENT SOIL-IN-GROUND			••••	7-		•	
PARTICLE ACTIVITY (MAXIMUM ESTIMA	TE)						
TOTAL			375	kBq			
MAXIMUM/SORT			59	kBq			
MINIMUM/SORT			3.5	kBq			
DISPERSED + PARTICLE (REALISTIC E	STIMATE) ACTIVITY			kBq	2,337		
MAXIMUM/SORT				kBq		kBq	
MINIMUM/SORT				8q		kBq	
SPECIFIC ACTIVITY			1,170	Bq/kg	"	Bq/kg	
WORK HISTORY							
WORK DAY START	05:00 AM		WORK D	AY END	04:30 PM		
PLANT START-UP	12:30 PM		PLANT	SHUT-DOWN	04:30 PM		
START SOIL PROCESSING	12:46 PM		END SO	IL PROCESSING	03:55 PM		
LUNCH START	11:30 AM		LUNCH	PERIOD	0.5	hr	
					* •		
WORK HOURS				11.0 hr			
AVAILABLE HOURS				4.0 hr 2.91 hr			
	URS (total 20-sec r	ecoras)		1.09 hr			
DOWN-TIME	•			0.25 hr			
TOTAL SYSTEM PAUS				7.0 hr			
NONAVAILABLE HOUF	.5			0.27 hr			
START-UP SHUT-DOWN				0.58 hr			
				72.8%			
PLANT PERFORMANCE PRODUCTIVITY				26.5%			
TOTAL SOIL PROCESSING RECORDS (2-				544			
NONPROCESS RECORDS (Test, calibra	tion, etc)			6			
20-SEC PROCESS RECORDS			524				
TOTAL SORT				: MD>0 & MND=0   AD=0 & MD=0 &	MIND > U		
NO SORT				AD>0& MD=0 &  AD>0&0 <md<mn0< td=""><td></td><td>l)mav</td><td></td></md<mn0<>		l)mav	
SOME SORT			22		MINDAGINU MI	1711KIA	
UNEXPLAINED RECOR			U	ı	UNEXPLAIN	; i	PAUSE
0 <ad<1kbq &="" md="">0</ad<1kbq>	0				TIME	'	TIME
AD=0 8					None		13:24
AD<0 8		19/			HOIR		= =
ACT_P <5 kBq	3 15.0	J /n					

File S1JA0706.WR1

1

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	2-SEC CO	UNT PERIODS				5,240					
		2-SEC RECORE	S WITH S	SORTS		20	(ACT_P	>0 k8q)			
		2-SEC RECORD	S WITH F	POSITIVES	IN >1 D	ETECTOR					
		7	2 DETECTO	)RS	6		85.7%				
		3	3 DETECTO	ORS	1		14.3%				
		4	4 DETECTO	ORS	0		0.0%				
		5	DETECTO	RS	0		0.0%				
		•	DETECTO	RS	0		0.0%				
		7	7 DETECTO	RS	0		0.0%				
		8	3 DETECTO	RS	0		0.0%				
		1	TOTAL			7					
		NET 2-SEC RE	CORDS WI	TH SORTS		13					
		2-SEC PERIOD	S WITH N	O SORTS		5,227					
		AVG TIME BET	WEEN 2-S	EC SORTS		806.2	sec				
1-GATE	SORTS	10	ACT_ND	NUMBER	SPEC A		A	CT P	SORT	FREQX	ACT_P
DETECT		FREQ%	(Bq)		(Bq/kg)			_ (Bq)	(#)		(kBq)
								•			
1	1	10.0%	-14000	0	-241		•	4000	2	10.0%	4
2	1	10.0%	-12000	0	-206		1	8000	5	25.0%	8
3	0	0.0%	-10000	0	-172		17	2000	1	5.0%	12
4	1	10.0%	-8000	0	-137		10	6000	3	15.0%	16
5	4	40.0%	-6000	1	-103		20	0000	1	5.0%	20
6	2	20.0%	-4000	1	-69		24	4000	3	15.0%	24
7	1	10.0%	-2000	5	-34		28	B000	1	5.0%	28
8	0	0.0%	0	21	0		37	2000	0	0.0%	32
TOTAL	10		2000	78	34		36	5000	1	5.0%	36
			4000	128	69		40	0000	0	0.0%	40
2-GATE	SORTS	10	6000	160	103		44	4000	1	5.0%	44
DETECT	R SORTS	FREQ%	8000	77	137		48	3000	0	0.0%	48
8			10000	46	172		52	2000	1	5.0%	52
9	1	10.0%	12000	10	206			5000	0	0.0%	56
10	0	0.0%	14000	3	241			0000	1	5.0%	60
11	1	10.0%	16000	0	275			1000	0	0.0%	64
12	3	30.0%	18000	0	309		68	3000	0	0.0%	68
13	2	20.0%	20000	0	344			2000	0	0.0%	72
14	3	30.0%	22000	0	378		76	5000	0	0.0%	76
15	0	0.0%	24000	0	412		80	0000	0	0.0%	80
TOTAL	10		26000	0	447		84	000	0	0.0%	84
			>28000	0	0		>84	1000	0	0.0%	>84
CHULLE	TOTALC		TOTAL	530			TC	TAL	20		
	TOTALS	CLE EVENTS	20		SORTS BY	ONE CV	TE ONLY		10		
		ICLE EVENTS	20 15		SORTS BY				10		
		ED EVENTS	163		30K13 BI	I WO CA	163		10		
	PISIKIDUI	TO EACUID	103								

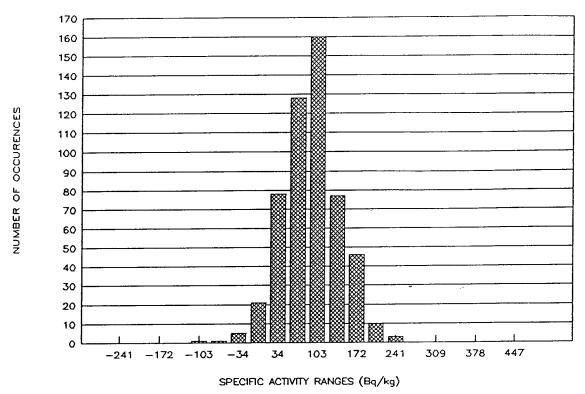
#### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

2.00 Empty belt

3.00 Test (No process soil)

SORTER 1 LOG DATA FOR 06-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES SORTER 1 LOG DATA FOR 06-Jul-93

26% 24% 22% FREQUENCY OF OCCURENCE (%) 20% 18% 16% 14% 12% 10% 8% 6% 4% 2% 0% 52 68 76 84 60 28 4 12 20 36 44

SORTER 2 06-Jul-93				
AVERAGE BACKGROUND COUNT RATE	0.75 ± 0.	05 c/sec		
SORTER SOIL DENSITY	1.25 tons/m³	· · · · · · · · · · · · · · · · · · ·		
GROUND SOIL DENSITY	1.65 tons/m³			
GROOND SOIL DENSITY	7.05 (3.10,	CONTAMINATED	CLEAN	
MASS TOTAL		0.09 tons	30.6 to	ns
MAXIMUM/SORT		61.3 kg	58.3 kg	
MINIMUM/SORT		0.7 kg	54.6 kg	
HIRITION JON			•	
WEIGHT RECOVERY OR VOLUME RECOVERY	,			99.7%
EQUIVALENT SOIL-IN-GROUND		0.07 yd³	24.3 yd	3 24.4 yd3/day
PARTICLE ACTIVITY (MAXIMUM ESTIMAT	E)			
TOTAL		429 kBq		
MAXIMUM/SORT		65 kBq		
MINIMUM/SORT		3.4 kBq		
DISPERSED + PARTICLE (REALISTIC ES	TIMATE) ACTIVITY	157 kBq	1,572 kB	q
MAXIMUM/SORT		36 kBq	11 kB	4
MINIMUM/SORT		0 Bq	-8 kB	4
SPECIFIC ACTIVITY		1,708 Bq/kg	51 Bq,	/kg
WORK HISTORY				
WORK DAY START	05:00 AM	WORK DAY END	04:30 PM	
PLANT START-UP	12:30 PM	PLANT SHUT-DOWN	04:30 PM	
START SOIL PROCESSING	12:46 PM	END SOIL PROCESSING		
LUNCH START	11:30 AM	LUNCH PERIOD	0.5 hr	
		11 0 6-		
WORK HOURS		11.0 hr 4.0 hr		
AVAILABLE HOURS	RS (total 20-sec records)	2.93 hr		
	ks (total 20-sec records)	1.07 hr		
DOWN-TIME		0.25 hr		
TOTAL SYSTEM PAUSE		7.0 hr		
NONAVAILABLE HOURS		0.28 hr		
START-UP		0.55 hr		
SHUT-DOWN		73.2%		
PLANT PERFORMANCE PRODUCTIVITY		26.6%		
PRODUCTIVIT		20.04		
TOTAL SOIL PROCESSING RECORDS (2-S	EC and 20-SEC)	557		
NONPROCESS RECORDS (Test, calibrat		3		
20-SEC PROCESS RECORDS	,	527		
TOTAL SORT		1 MD>0 & MND=0		
NO SORT		505 AD=0 & MD=0 &	MND>0	
SOME SORT		21 AD>0&0 <md<mnd< td=""><td>max&amp;MND<mndma< td=""><td>nx .</td></mndma<></td></md<mnd<>	max&MND <mndma< td=""><td>nx .</td></mndma<>	nx .
UNEXPLAINED RECORD	S	0		
0 <ad<1kbq &="" md="">0</ad<1kbq>	0		UNEXPLAIN	PAUSE
& 0=DA	MD 0		TIME	TIME
AD<0 &			None	13:24
ACT P <5 kBq	3 10.0%			
<del>-</del> ·				

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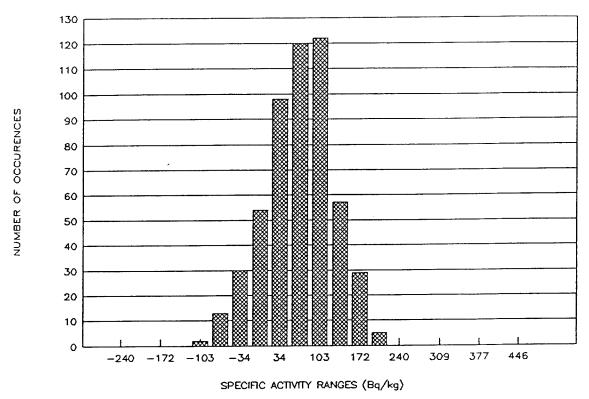
2-SEC COUNT PERIODS	5,270	
2-SEC RECORDS WITH SORTS	30	(ACT_P >0 kBq)
2-SEC RECORDS WITH POSITIVES	IN >1 DETECTOR	
2 DETECTORS	3	50.0%
3 DETECTORS	2	33.3%
4 DETECTORS	1	16.7%
5 DETECTORS	0	0.0%
6 DETECTORS	0	0.0%
7 DETECTORS	0	0.0%
8 DETECTORS	0	0.0%
TOTAL	6	
NET 2-SEC RECORDS WITH SORTS	24	
2-SEC PERIODS WITH NO SORTS	5,246	
AVG TIME BETWEEN 2-SEC SORTS	439.2	sec

1-GATE S	ORTS	16	ACT_ND	NUMBER	SPEC_A	ACT_P	SORT	FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)	(Bq)	(#)		(kBq)
							_		
1	0	0.0%	-14000	0	-240	4000	2		4
2	3	18.8%	-12000	0	-206	8000	9	30.0%	8
3	4	25.0%	-10000	0	-172	12000	10	33.3%	12
4	5	31.3%	-8000	0	-137	16000	2	6.7%	16
5	0	0.0%	-6000	2	-103	20000	3	10.0%	20
6	1	6.3%	-4000	13	-69	24000	0	0.0%	24
7	2	12.5%	-2000	30	-34	28000	2	6.7%	28
8	1	6.3%	0	54	0	32000	0	0.0%	32
TOTAL	16		2000	98	34	36000	0	0.0%	36
			4000	120	69	40000	0	0.0%	40
2-GATE S	ORTS	14	6000	122	103	44000	0	0.0%	44
DETECTR	SORTS	FREQ%	8000	57	137	48000	0	0.0%	48
8			10000	29	172	52000	0	0.0%	52
9	1	7.1%	12000	5	206	56000	0	0.0%	56
10	3	21.4%	14000	0	240	60000	0	0.0%	60
11	7	50.0%	16000	0	274	64000	0	0.0%	64
12	0	0.0%	18000	0	309	68000	2	6.7%	68
13	1	7.1%	20000	0	343	72000	0	0.0%	72
14	1	7.1%	22000	0	377	76000	0	0.0%	76
15	1	7.1%	24000	0	412	80000	0	0.0%	80
TOTAL	14		26000	0	446	84000	0	0.0%	84
			>28000	0	0	>84000	0	0.0%	>84
			TOTAL	530		TOTAL	30		
SUMMARY	TOTALS								
	OT PARTICE	E EVENTS	29		SORTS BY	ONE GATE ONLY	16		
		LE EVENTS	13		SORTS BY	TWO GATES	14		
	ISTRIBUTED		84						

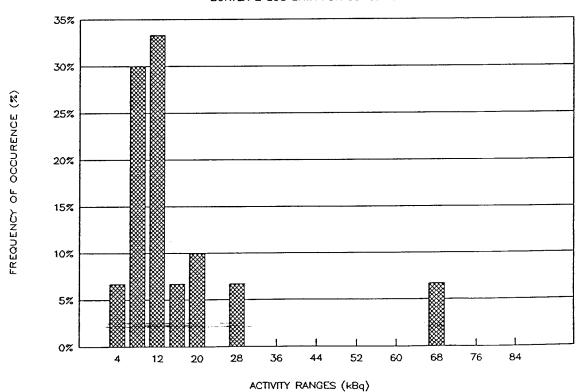
### REC CODE EXPLANATION

- 1.00 Source check (Soil on belt)
- 2.00 Empty belt
- 3.00 Test (No process soil)

SORTER 2 LOG DATA FOR 06-Jul-93



JA SOIL CLEANUP PLANT HOT PARTICLES
SORTER 2 LOG DATA FOR 06-Jul-93



NUMBER OF SOIL DENSITY	SORTER 4 06-Jul-93				
SORIER SOIL DENSITY 1.3 tons/m² GROUND SOIL DENSITY 1.65 tons/m³ CONTAMINATED CLEAM  MASS TOTAL 0.25 tons 51.3 tons  MASS TOTAL 0.6 kg 6.0.6 kg 6.0.6 kg 7.0	AVEDACE RACYCRONIUD CONINT RATE	0.69 ± 0.	.03 c/sec		
MAXIMAM/SORT   MAXIMAM/SORT   MAXIMAM/SORT   MAXIMAM/SORT   MAXIMAM/SORT   MAXIMAM/SORT   MINIMAM/SORT   MIN					
MASS TOTAL  MAST TOTAL  MAST TOTAL  MAST MATHAM/SORT  MINIMAM/SORT  MINIMAM/SORT  MINIMAM/SORT  MINIMAM/SORT  MEGINT RECOVERY OR VOLUME RECOVERY  EQUIVALENT SOIL-IN-RECRUMD  PARTICLE ACTIVITY (MAXIMUM ESTIMATE)  TOTAL  MAXIMAM/SORT  MINIMAM/SORT  MORK CONTISTANT  MORK CONTISTANT  MORK MISTORY  MORK CONTISTANT  MORK MISTORY  MORK MORE START O5:00 AM  PLANT START-UP  MORK MORE START O5:00 AM  PLANT START-UP  MORK MORE START I1:30 AM  MORK MORE MORE MORE MORE I1:40 hr  MORK MORK MORE MORE MORE I1:40 hr  MORK MORK MORE MORE MORE I1:40 hr  MORK MORE MORE MORE I1:40 hr  MORK MORK MORE MORE MORE II:40 hr  MORK MORE MORE MORE II:40 hr  MORK MORE MORE MORE II:40 hr  MORE MORE MORE MORE II:40 hr  MORE MORE MORE MORE II:40 hr  MORE MORE MORE II:40 hr  MORE MORE MORE MORE MORE MORE MORE MORE					
MASH MINIMUM/SORT  MINIMUM/SORT  MINIMUM/SORT  MINIMUM/SORT  MINIMUM/SORT  MINIMUM/SORT  MINIMUM/SORT  MORE OBLINIAR RECOVERY  FOULUALERT SOIL-IN-ARGUND  DAY  MASHMAN/SORT  MASHMAN/SORT  MINIMUM/SORT  MASHMAN/SORT  MINIMUM/SORT  MORE OBLINIAR  MINIMUM/SORT  MORE OBLINIAR  MINIMUM/SORT  MORE ACTIVITY  MORE OBLINIAR  MORE MISTORY  MORE ACTIVITY  MORE OBLINIAR  MORE MISTORY  MORE ACTIVITY  MORE OBLINIAR  MORE MISTORY  MORE MORE MOURS  ACTUAL PROCESSING  MORE MOURS  ACTUAL PROCESSING  MORE MOURS  ACTUAL PROCESSING  MORE MOURS  ACTUAL PROCESSING  MORE MOURS  ACTUAL PROCESSING MINIMUM MINIMU	GROUND SOIL DERSITT	(103 (0.10), 111	CONTAMINATED	CLEAN	
NATHUM/SORT   0.8 kg	HACO TOTAL		0.25 tons	51.3 ton	s
MILINUM/SORT  WEIGHT RECOVERY OR VOLUME RECOVERY EQUIVALENT SOIL-IN-GROUND  PARTICLE ACTIVITY (MAXIMM ESTIMATE)  TOTAL MAXIMM/SORT MINIMM/SORT MINIMM/SORT MINIMM/SORT MINIMM/SORT MINIMM/SORT MINIMM/SORT SPECIFIC (REALISTIC ESTIMATE) ACTIVITY  MORK MINIMM/SORT SPECIFIC ACTIVITY  WORK DAY START PLANT START-UP D5:00 AM MCR DAY START PLANT START-UP MORK DOSSING START SOIL PROCESSING MSILL BROCESS NOURS  MORK HOURS ACTUAL PROCESSING MSILL BROCESS NOURS MORK HOURS ACTUAL PROCESS NOURS MORK MOUNS ACTUAL PROCESS NOURS MONAVAILABLE HOURS ACTUAL PROCESS NOURS MONAVAILAB				60.6 kg	
METIGHT RECOVERY OR VOLUME RECOVERY EQUIVALENT SOIL-IN-GROUND  PARTICLE ACTIVITY (MAXIMUM ESTINATE)  TOTAL  MAXIMUM/SORT  MAXIMUM/SORT  MAXIMUM/SORT  MAXIMUM/SORT  MAXIMUM/SORT  MAXIMUM/SORT  MINIMUM/SORT  MAXIMUM/SORT  MAXIMUM/MAXIMUM/MAXIMUM  MAXIMUM/SORT  MAXIMUM/S			<del>-</del>		
PARTICLE ACTIVITY (MAXIMUM ESTIMATE)   S99 kBq   A3.8 yd³ /day	MINIMUM/SURI		0.0 /3	<b>3</b>	
PARTICLE ACTIVITY (MAXIMUM ESTIMATE)   101AL   899 KBq   175 KBq   3.9 kBq	WEIGHT RECOVERY OR VOLUME RECOVER	Y			99.5%
DARTICLE ACTIVITY (MAXIMUM ESTIMATE)   1011			0.20 yd3	40.6 yd <sup>3</sup>	40.8 yd3/day
TOTAL  MAXIMM/SORT  HINHIM/SORT  DISPERSE + PARTICLE (REALISTIC ESTIMATE) ACTIVITY  MAXIMM/SORT  MAXIMM/SORT  MAXIMM/SORT  SPECIFIC ACTIVITY  MORK DAY START  O5:00 AM  PLANT SHAPT-DOWN  PLANT START-UP  O5:00 AM  MORK DAY END  O4:30 PM  PLANT SHAPT-UP  START SOLL PROCESSING  O5:11 AM  END SOIL PROCESSING  O5:11 AM  END SOIL PROCESSING  I1:30 AM  LUNCH START  WORK HOURS  AVAILABLE HOURS  ACTUAL PROCESS HOURS (total 20-sec records)  ACTUAL PROCESS HOURS (total 20-sec records)  ACTUAL PROCESS HOURS  TOTAL SYSTEN PAUSE  NONAVAILABLE HOURS  START-UP  START-UP  START-UP  START-UP  START-UP  SOM-STIME  TOTAL SYSTEN PAUSE  NONAVAILABLE HOURS  ACTUAL PROCESS HOURS (total 20-sec records)  ACTUAL PROCESSING RECORDS  TOTAL SOIL PROCESSING RECORDS  TOTAL SORT  NO SORT  TOTAL SORT  O-SDE PROCESS RECORDS  TOTAL SORT  O SORT  TOTAL SORT  O SORT  TOTAL SORT  O SORT  TOTAL SORT  O SORD SORT  TOTAL SORD RECORDS  O WINEXPLAINED RECORDS  O WINEXPLAINED RECORDS  O WINEXPLAINED RECORDS  O SORD SORT  UNEXPLAINED RECORDS  O SORD SORT  UNEXPLAINED PAUSE  TITE  O SORT					
MAX	PARTICLE ACTIVITY (MAXIMUM ESTIMA	TE)			
MINIMUM/SORT   587 kBq	TOTAL		·		
DISPERSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY  MAXIMAM/SORT  MAXIMAM/SORT  SPECIFIC ACTIVITY   DORK HISTORY  WORK DAY START  MORK DAY START  DS:00 AM  PLANT START-UP  START SOIL PROCESS HOURS  AVAILABLE HOURS  ACTUAL PROCESS HOURS  START-UP  DOWN-TIME  TOTAL SYSTEM PAUSE  NORWAYILABLE HOURS  START-UP	MAXIMUM/SORT		73 kBq		
MXIMM/SORT MINIMM/SORT SPECIFIC ACTIVITY  MORK HISTORY  MORK DAY START OS:00 AM PLANT START-UP OS:00 AM PLANT START SILL PROCESSING LUNCH START  MORK HOURS AVAILABLE HOURS ACTUAL PROCESS HOURS (total 20-sec records)  MORK HOURS ACTUAL STARTH  TOTAL SYSTEM PAUSE NONAVAILABLE HOURS ACTUAL PROCESS HOURS (total 20-sec records)  MORK HOURS ACTUAL PROCESSING RECORDS  TOTAL SOIL PROCESSING RECORDS (2-sec and 20-sec)  MONPROCESS RECORDS TOTAL SOIL PROCESSING RECORDS (2-sec and 20-sec)  MONPROCESS RECORDS TOTAL SORT NO SORT NO SORT TOTAL SORT	MINIMUM/SORT	,	3.9 kBq		
MXIMM/SORT MINIMM/SORT SPECIFIC ACTIVITY  MORK HISTORY  MORK DAY START OS:00 AM PLANT START-UP OS:00 AM PLANT START SILL PROCESSING LUNCH START  MORK HOURS AVAILABLE HOURS ACTUAL PROCESS HOURS (total 20-sec records)  MORK HOURS ACTUAL STARTH  TOTAL SYSTEM PAUSE NONAVAILABLE HOURS ACTUAL PROCESS HOURS (total 20-sec records)  MORK HOURS ACTUAL PROCESSING RECORDS  TOTAL SOIL PROCESSING RECORDS (2-sec and 20-sec)  MONPROCESS RECORDS TOTAL SOIL PROCESSING RECORDS (2-sec and 20-sec)  MONPROCESS RECORDS TOTAL SORT NO SORT NO SORT TOTAL SORT	DISDEDGED & DADTICLE (DEALISTIC F	STIMATE) ACTIVITY	587 kBa	4,906 kBq	
MINIMUM/SORT   0 8q			·	•	
SPECIFIC ACTIVITY   2,354 Bq/kg			•	-3 kBq	
WORK HISTORY  WORK DAY START  D5:00 AM  PLANT START-UP  O5:00 AM  START SOIL PROCESSING  D5:11 AM  END SOIL PROCESSING  MORK HOURS  AVAILABLE HOURS  ACTUAL PROCESS HOURS (total 20-sec records)  DOWN-TIME  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  START-UP  SHUT-DOWN  PLANT START-UP  O.20 hr  SHUT-DOWN  PLANT PERFORMANCE  PROOUCTIVITY  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  NONPROCESS RECORDS  TOTAL SORT  NO SORT  TOTAL SORT  NO SORT  SOME SORT  UNEXPLAINED RECORDS  O-AD<1849 MD>0  UNEXPLAINED RELORD  AD=0 & MD 0  TIME  TIME  AD=0 & MD 0  AD=0 & MD 0  TIME  TIME  TIME  TIME  AD=0 & MD 0  TIME  TIME  TIME  TIME  AD=0 & MD 0  TIME  TIME  TIME  TIME  TIME  TIME  AD=0 & MD 0  TIME  TOTAL SOLVED TO TABLE  TO TA	•		•	96 Bq/l	(g
MORK DAY START   05:00 AM	SPECIFIC ACTIVITY		-,	•	
PLANT START-UP 05:00 AM PLANT SHUT-DOWN 11:10 AM START SOIL PROCESSING 05:11 AM END SOIL PROCESSING 10:39 AM LUNCH START 11:30 AM LUNCH PERIOD 0.5 hr    MORK HOURS	WORK HISTORY				
START SOIL PROCESSING   05:11 AM   END SOIL PROCESSING   10:39 AM	WORK DAY START	05:00 AM	WORK DAY END		
LUNCH START   11:30 AM   LUNCH PERIOD   0.5 hr	PLANT START-UP	05:00 AM	PLANT SHUT-DOWN	11:10 AM	
WORK HOURS	START SOIL PROCESSING	05:11 AM	END SOIL PROCESSING	10:39 AM	
AVAILABLE HOURS  ACTUAL PROCESS HOURS (total 20-sec records)  ACTUAL PROCESS HOURS (total 20-sec records)  ACTUAL PROCESS HOURS (total 20-sec records)  DOWN-TIME  1.44 hr  10TAL SYSTEM PAUSE  NONAVAILABLE HOURS  4.8 hr  START-UP  0.20 hr  SHUT-DOWN  0.51 hr  PLANT PERFORMANCE  PRODUCTIVITY  42.9%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  NONPROCESS RECORDS  850  TOTAL SORT  20-SEC PROCESS RECORDS  850  TOTAL SORT  20 MD-0 & MND-0  NO SORT  50ME SORT  136 AD-08.0 MD-0 & MND-0  136 AD-08.0 MD-0 MND-MNDmax & MND-MNDmax  UNEXPLAINED RECORDS  0 <ad-0 &="" 0="" ad-0="" md="" sort="" sort<="" td="" time="" total=""><td>LUNCH START</td><td>11:30 AM</td><td>LUNCH PERIOD</td><td>0.5 hr</td><td></td></ad-0>	LUNCH START	11:30 AM	LUNCH PERIOD	0.5 hr	
AVAILABLE HOURS  ACTUAL PROCESS HOURS (total 20-sec records)  ACTUAL PROCESS HOURS (total 20-sec records)  ACTUAL PROCESS HOURS (total 20-sec records)  DOWN-TIME  1.44 hr  10TAL SYSTEM PAUSE  NONAVAILABLE HOURS  4.8 hr  START-UP  0.20 hr  SHUT-DOWN  0.51 hr  PLANT PERFORMANCE  PRODUCTIVITY  42.9%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  NONPROCESS RECORDS  850  TOTAL SORT  20-SEC PROCESS RECORDS  850  TOTAL SORT  20 MD-0 & MND-0  NO SORT  50ME SORT  136 AD-08.0 MD-0 & MND-0  136 AD-08.0 MD-0 MND-MNDmax & MND-MNDmax  UNEXPLAINED RECORDS  0 <ad-0 &="" 0="" ad-0="" md="" sort="" sort<="" td="" time="" total=""><td>THE HUTES</td><td></td><td>11.0 hr</td><td></td><td></td></ad-0>	THE HUTES		11.0 hr		
ACTUAL PROCESS HOURS (total 20-sec records)  DOMN-TIME  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  START-UP  SHUT-DOWN  SHUT-DOWN  PLANT PERFORMANCE  PRODUCTIVITY  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  NONPROCESS RECORDS  TOTAL SORT  NO SORT  SOME SORT  UNEXPLAINED RECORDS  0 <					
DOUN-TIME		URS (total 20-sec records)	4.72 hr		
TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  \$14.8 hr  \$17AT-UP  \$18UT-DOWN  \$18UT-			1.44 hr		
NONAVAILABLE HOURS   4.8 hr		F	0.68 hr		
START-UP   0.20 hr	***************************************		4.8 hr		
SHUT-DOWN   0.51 hr		_	0.20 hr		
PLANT PERFORMANCE PRODUCTIVITY  20-SEC PROCESSING RECORDS (2-SEC and 20-SEC)  NONPROCESS RECORDS  TOTAL SORT  NO SORT  SOME SORT  UNEXPLAINED RECORDS  AD=0 & MD 0  AD=0 & MD 0  NO SOR  AD=0 & MD 0  TIME  TIME  AD=0 & MD 0  NO RECORDS  TIME  TIME  AD=0 & MD 0  NO RECORDS  TIME  TIME  TIME  TIME  AD=0 & MD 0  NO RECORDS  NO RECORDS  TOTAL SORT  AD=0 & MD 0  TIME  TIME  TIME  TIME  TOTAL  TIME  TIME  TIME  TOTAL  T			0.51 hr		
PRODUCTIVITY  42.9%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  NONPROCESS RECORDS (Test, calibration, etc)  20-SEC PROCESS RECORDS  TOTAL SORT  NO SORT  SOME SORT  UNEXPLAINED RECORDS  AD=0 & MD>0  AD=0 & MD  UNEXPLAIN PAUSE  AD=0 & MD  TIME  TIME  AD=0 & MD  AD=0 &			76.6%		
TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  NONPROCESS RECORDS (Test, calibration, etc)  20-SEC PROCESS RECORDS  TOTAL SORT  NO SORT  SOME SORT  UNEXPLAINED RECORDS  AD=0 & MD>0  AD=0 & MD  UNEXPLAIN PAUSE  AD=0 & MD  NO SORT  AD=0 & MD			42.9%		
NONPROCESS RECORDS (Test, calibration, etc)   14	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
20-SEC PROCESS RECORDS   850	TOTAL SOIL PROCESSING RECORDS (2-	SEC and 20-SEC)			
TOTAL SORT  NO SORT  SOME SORT  UNEXPLAINED RECORDS  O AD < 1 kBq & MD > 0  AD = 0 & MD = 0 & MND > 0  UNEXPLAIN PAUSE  AD = 0 & MD  O UNEXPLAIN PAUSE  AD = 0 & MD  O UNEXPLAIN PAUSE  AD = 0 & MD  O UNEXPLAIN PAUSE  TIME  TIME  TIME  AD < 0 & MD  O S: 45	NONPROCESS RECORDS (Test, calibra	tion, etc)	14		
NO SORT 712 AD=0 & MD=0 & MND>0  SOME SORT 136 AD>0&0 <md<mndmax&mnd<mndmax &="" 0="" md="" o<ad<1kbq="" records="" unexplained="">0 0 UNEXPLAIN PAUSE  AD=0 &amp; MD 0 TIME TIME  AD&lt;0 &amp; MD 0 None 05:45</md<mndmax&mnd<mndmax>	20-SEC PROCESS RECORDS		850		
SOME SORT 136 AD>0&0 <md<mndmax&mnd<mndmax &="" 0="" 0<ad<1kbq="" md="" records="" unexplained="">0 0 UNEXPLAIN PAUSE  AD=0 &amp; MD 0 TIME TIME  AD&lt;0 &amp; MD 0 None 05:45</md<mndmax&mnd<mndmax>	TOTAL SORT		2 MD>0 & MND=0		
UNEXPLAINED RECORDS         0           0 <ad<1kbq &="" md="">0         UNEXPLAIN PAUSE           AD=0 &amp; MD 0         TIME TIME           AD&lt;0 &amp; MD 0</ad<1kbq>	NO SORT				
0 <ad<1kbq &="" md="">0</ad<1kbq>	SOME SORT			)max&MND <mndmax< td=""><td>(</td></mndmax<>	(
AD=0 & MD 0 TIME TIME AD<0 & MD 0 None 05:45	UNEXPLAINED RECOR	DS	0		
AD<0 & MD 0 None 05:45	0 <ad<1kbq &="" md="">0</ad<1kbq>	0			
AUTO & FILE	AD=0 &	MD 0		TIME	
ACT_P <5 kBq 5 10.0% 07:09	& 0>DA			None	
	ACT_P <5 kBq	5 10.0%			07:09

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2-SEC COUNT PERIODS	8,51	00	
2-SEC RECORDS WITH SORTS	:	50 (ACT_P >0 kBq	)
2-SEC RECORDS WITH POSITIVES	IN >1 DETECT	OR .	
2 DETECTORS	11	91.7%	
3 DETECTORS	1	8.3%	
4 DETECTORS	0	0.0%	
5 DETECTORS	0	0.0%	
6 DETECTORS	0	0.0%	
7 DETECTORS	0	0.0%	
8 DETECTORS	0	0.0%	
TOTAL	•	12	
NET 2-SEC RECORDS WITH SORTS	3	88	
2-SEC PERIODS WITH NO SORTS	8,46	52	
AVG TIME BETWEEN 2-SEC SORTS	447.	4 sec	

1-GATE	SORTS	35	ACT_ND	NUMBER	SPEC_A	ACT_P	SORT	FREQ%	ACT_P
DETECT	R SORTS	FREQ%	(Bq)	(#)	(Bq/kg)	(Bq)	(#)		(kBq)
1	17	7 48.6%	-14000	0	-231	4000	1	2.0%	4
2	: 3	8.6%	-12000	0	-198	8000	17	34.0%	8
3	5	14.3%	-10000	0	-165	12000	12	24.0%	12
4		2 5.7%	-8000	2	-132	16000	9	18.0%	16
5	. 2	5.7%	-6000	4	-99	20000	0	0.0%	20
6	. 3	8.6%	-4000	2	-66	24000	1	2.0%	24
7	7	5.7%	-2000	5	-33	28000	1	2.0%	28
8	. 1	2.9%	0	37	0	32000	0	0.0%	32
TOTAL	39	i	2000	78	33	36000	1	2.0%	36
			4000	174	66	40000	0	0.0%	40
2-GATE	SORTS	15	6000	190	99	44000	1	2.0%	44
DETECT	R SORTS	FREQ%	8000	167	132	48000	0	0.0%	48
8			10000	112	165	52000	0	0.0%	52
9	2	13.3%	12000	50	198	56000	1	2.0%	56
10	1	6.7%	14000	22	231	60000	2	4.0%	60
11	5	33.3%	16000	7	264	64000	3	6.0%	64
12	2	13.3%	18000	7	297	68000	0	0.0%	68
13	2	13.3%	20000	5	330	72000	0	0.0%	72
14	2	13.3%	22000	2	363	76000	1	2.0%	76
15	1	6.7%	24000	0	396	80000	0	0.0%	80
TOTAL	15		26000	0	429	84000	0	0.0%	84
			>28000	0	0	>84000	0	0.0%	>84
			TOTAL	864		TOTAL	50		
SUMMAR	Y TOTALS								
	HOT PART	ICLE EVENTS	48		SORTS BY	ONE GATE ONLY	35		
	MULTIPAR	TICLE EVENTS	117		SORTS BY	TWO GATES	15		
	DISTRIBU	TED EVENTS	158						

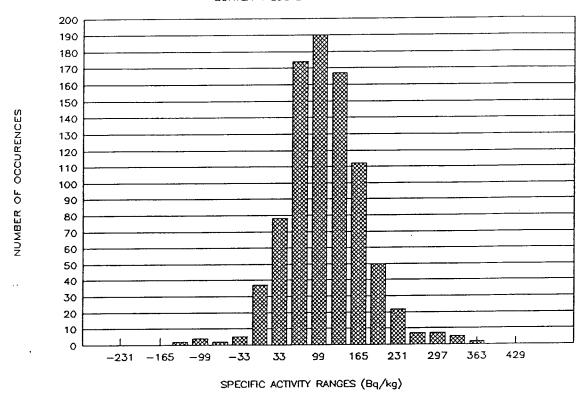
### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

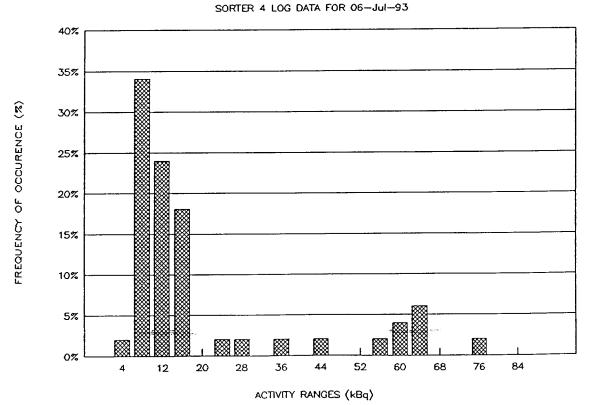
2.00 Empty belt

3.00 Test (No process soil)

SORTER 4 LOG DATA FOR 06-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES



SORTER 1 12-Jul-93				
AVERAGE BACKGROUND COUNT RATE	0.77 ± 0.	04 c/sec		
SORTER SOIL DENSITY	1.3 tons/m <sup>3</sup>			
GROUND SOIL DENSITY	1.65 tons/m <sup>3</sup>			
		CONTAMINATED	CLEAN	
MASS TOTAL		2.62 tons	107.9 tor	าร
MAXIMUM/SORT		58.2 kg	58.2 kg	
MINIMUM/SORT		0.7 kg	50.2 kg	
WEIGHT RECOVERY OR VOLUME RECOVER	<b>v</b>			97.6%
EQUIVALENT SOIL-IN-GROUND	.•	2.08 yd³	85.5 yd³	
EQUIVACENT SOLC-IN-GROUND		2.00 /4	, , ,	
PARTICLE ACTIVITY (MAXIMUM ESTIMA	TE)			
TOTAL		19,158 kBq		
MAXIMUM/SORT		285 kBq		
MINIMUM/SORT		2.9 kBq		
manually don't		•		
DISPERSED + PARTICLE (REALISTIC E	STIMATE) ACTIVITY	7,607 kBq	10,785 kBd	1
MAXIMUM/SORT		184 kBq	21 kBc	1
MINIMUM/SORT		0 Bq	-4 kBc	l
SPECIFIC ACTIVITY		2,901 Bq/kg	100 Bq/	'kg
WORK HISTORY			0/ 70 84	
WORK DAY START	05:00 AM	WORK DAY END	04:30 PM	
PLANT START-UP	05:00 AM	PLANT SHUT-DOWN	04:30 PM	
START SOIL PROCESSING	05:22 AM	END SOIL PROCESSING		
LUNCH START	11:30 AM	LUNCH PERIOD	0.0 hr	
WORK HOURS		11.5 hr		
AVAILABLE HOURS		11.5 hr		
ACTUAL PROCESS HO	URS (total 20-sec records)	10.54 hr		
DOWN-TIME		0.96 hr		
TOTAL SYSTEM PAUS	Ε	0.03 hr		
NONAVAILABLE HOUR	s	0.0 hr		
START-UP		0.37 hr		
SHUT-DOWN		0.57 hr		
PLANT PERFORMANCE		91.7%		
PRODUCTIVITY		91.7%		
TOTAL SOIL PROCESSING RECORDS (2-	SEC and 20-SEC)	3,047		
NONPROCESS RECORDS (Test, calibra		10		
20-SEC PROCESS RECORDS	cron, ccc,	1,898		
TOTAL SORT		26 MD>0 & MND=0		
NO SORT		1,244 AD=0 & MD=0 &	MND>0	
SOME SORT		628 AD>0&0 <md<mnc< td=""><td></td><td>X</td></md<mnc<>		X
UNEXPLAINED RECOR	DS	0		
0 <ad<1kbq &="" md="">0</ad<1kbq>	5		UNEXPLAIN	PAUSE
AD=0 &			TIME	TIME
AD<0 &			06:02:29	05:38
ACT_P <5 kBq	256 22.3%		09:47:09	
_				

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	2-SEC COX	JNT PERIODS				18,980			1	1:57:29
	_ 020 00	2-SEC RECORD	S WITH S	ORTS		1,149 (4	CT_P >0 kBq)		1	3:05:49
		2-SEC RECORD					_		:	3:08:09
			DETECTO		258		0.6%			
			DETECTO		54	16	5.9%			
		4	DETECTO	RS	8	2	2.5%			
			DETECTO		0	(	0.0%			
			DETECTO		0	(	0.0%			
		7	DETECTO	RS	0	(	0.0%			
		8	DETECTO	RS	0	(	0.0%			
		т	OTAL			320				
		NET 2-SEC RE	CORDS WI	TH SORTS		829				
		2-SEC PERIOD	S WITH N	O SORTS		18,151				
		AVG TIME BET	WEEN 2-S	EC SORTS		45.8 se	ec			
1-GATE	SORTS	564	ACT_ND	NUMBER	SPEC_A		ACT_P	SORT	FREQ%	ACT_P
DETECTR		FREQ%	(Bq)	(#)	(Bq/kg)		(Bq)	(#)		(kBq)
1	11	2.0%	-14000	0	-241		4000	76	6.6%	4
2	38	6.7%	-12000	0	-206		8000	514	44.7%	8
3	80	14.2%	-10000	0	-172		12000	197	17.1%	12
4	101	17.9%	-8000	0	-137		16000	93	8.1%	16
5	150	26.6%	-6000	2	-103		20000	50	4.4%	20
6	94	16.7%	-4000	5	-69		24000	27	2.3%	24
7	77	13.7%	-2000	15	-34		28000	34	3.0%	28
8	13	2.3%	0	90	0		32000	21	1.8%	32
TOTAL	564		2000	169	34		36000	21	1.8%	36
			4000	367	69		40000	11	1.0%	40
2-GATE	SORTS	585	6000	445	103		44000	12	1.0%	44
DETECTR	SORTS	FREQ%	8000	383	137		48000	9	0.8%	48
8			10000	217	172		52000	7	0.6%	52
9	24	4.1%	12000	111	206		56000	5	0.4%	56
10	50	8.5%	14000	60	241		60000	6	0.5%	60
11	107	18.3%	16000	22	275		64000	6	0.5%	64
12	143	24.4%	18000	8	309		68000	4	0.3%	68
13	126	21.5%	20000	9	344		72000	4	0.3%	72
14	92	15.7%	22000	5	378		76000	6	0.5%	76
15	43	7.4%	24000	0	412		80000	8	0.7%	80
TOTAL	585		26000	0	447		84000	2	0.2%	84
			>28000	0	0		>84000	36	3.1%	>84
			TOTAL	1908			TOTAL	1149		
	TOTALS					. <b></b>	٧	<i>511</i>		
		ICLE EVENTS	1162			ONE GATI		564		
		TICLE EVENTS	483		SORTS BY	TWO GATE	:5	585		
	DISTRIBU	TED EVENTS	1954							

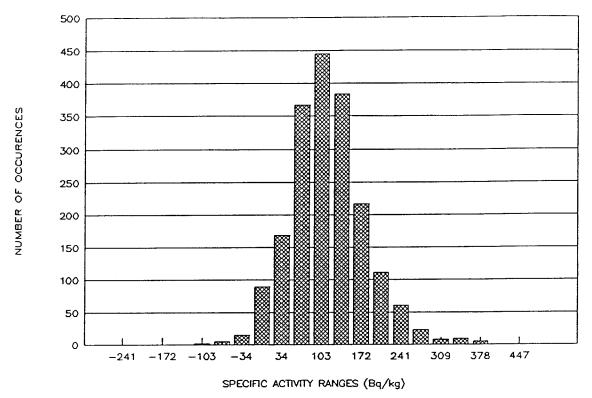
### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

2.00 Empty belt

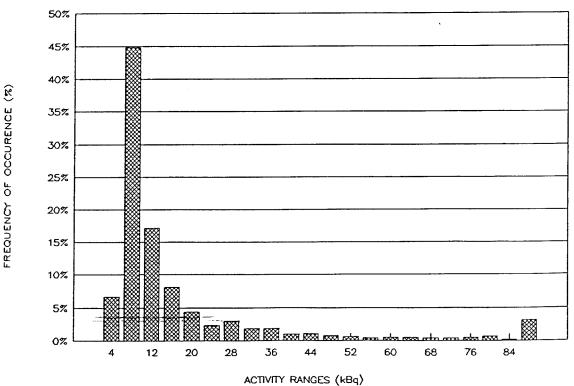
3.00 Test (No process soil)

SORTER 1 LOG DATA FOR 12-Jul-93



## JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 1 LOG DATA FOR 12-Jul-93



SORTER 2 12-Jul-93				
AVERAGE BACKGROUND COUNT RATE	0.80 ± 0.	02 c/sec		
SORTER SOIL DENSITY	1.3 tons/m³			
GROUND SOIL DENSITY	1.65 tons/m³			
		CONTAMINATED	CLEAN	
MASS TOTAL		3.73 tons	107.1 t	ons
MAXIMUM/SORT		58.3 kg	58.3 k	
MINIMUM/SORT		0.7 kg	49.5 k	(g
	.,			96.6%
WEIGHT RECOVERY OR VOLUME RECOVER	τ	2.96 yd³	84.9 )	
EQUIVALENT SOIL-IN-GROUND		2.70 Yu		
PARTICLE ACTIVITY (MAXIMUM ESTIMA	TE)			
TOTAL		24,289 kBq		
MAXIMUM/SORT		1,592 kBq		
MINIMUM/SORT		2.8 kBq		
DISPERSED + PARTICLE (REALISTIC E	STIMATE) ACTIVITY	9,965 kBq	13,338 k	(Bq
MAXIMUM/SORT		897 kBq	21 1	:Bq
MINIMUM/SORT		0 Bq	-5 k	:Bq
SPECIFIC ACTIVITY		2,670 Bq/kg	125 E	Bq/kg
WORK HISTORY	05:00 AM	WORK DAY END	04:30 PM	
WORK DAY START	05:00 AM	PLANT SHUT-DOWN	04:30 PM	
PLANT START-UP START SOIL PROCESSING	05:20 AM	END SOIL PROCESSING	03:55 PM	
LUNCH START	11:30 AM	LUNCH PERIOD	0.0 H	ır
		44.5.1-		
WORK HOURS		11.5 hr		
AVAILABLE HOURS		11.5 hr 10.57 hr		
	OURS (total 20-sec records)	0.93 hr		
DOWN-TIME	_	0.03 hr		
TOTAL SYSTEM PAUS		0.0 hr		
NONAVAILABLE HOUR	is .	0.35 hr		
START-UP		0.57 hr		
SHUT-DOWN		91.9%		
PLANT PERFORMANCE	•	91.9%		
PRODUCTIVITY		,,,,,,,		
TOTAL SOIL PROCESSING RECORDS (2-		3,200		
NONPROCESS RECORDS (Test, calibra	ation, etc)	6		
20-SEC PROCESS RECORDS		1,902		
TOTAL SORT		42 MD>0 & MND=0		
NO SORT		1,153 AD=0 & MD=0 &		)may
SOME SORT		707 AD>0&0 <md<mne< td=""><td>JMAX&amp;MNU <mnl< td=""><td>лиах</td></mnl<></td></md<mne<>	JMAX&MNU <mnl< td=""><td>лиах</td></mnl<>	лиах
UNEXPLAINED RECOR		0	INICVOLATE	PAUSE
0 <ad<1kbq &="" md="">0</ad<1kbq>	3		UNEXPLAIN	TIME
AD=0 8			TIME 07:50:49	05:38
8 O>DA			07:59:49 11:23:29	07.50
ACT_P <5 kBq	196 15.1%		11.63.67	

File S2JA0712.WR1

1

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;	2-SEC COL	JNT PERIODS				19,020					14:52:09
	. 020 00	2-SEC RECORD	S WITH S	ORTS		-	(ACT P	>0 kBq)			
		2-SEC RECORD			IN >1 DE		-				
			DETECTO		283		84.2%				
			DETECTO		50		14.9%				
			DETECTO		3		0.9%				
			DETECTO		0		0.0%				
			DETECTO		0		0.0%				
			DETECTO		0		0.0%				
			DETECTO		0		0.0%				
				<i>K</i> 3	U	336	0.0%				
			COODS UT	TU CODIC		962					
		NET 2-SEC RE									
		2-SEC PERIOD				18,058 39.5					
		AVG TIME BET	WEEN 2-5	EC SURIS		39.3	sec				
1-GATE S	SORTS	680	ACT_ND	NUMBER	SPEC_A			ACT_P	SORT	FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)			(Bq)	(#)		(kBq)
1	23	3.4%	-14000	0	-240			4000	54	4.2%	
2	104	15.3%	-12000	0	-206			8000	581	44.8%	
3	127	18.7%	-10000	0	-172			12000	251	19.3%	12
4	137	20.1%	-8000	0	-137			16000	108	8.3%	16
5	128	18.8%	-6000	1	-103			20000	57	4.4%	20
6	91	13.4%	-4000	6	-69			24000	55	4.2%	24
7	63	9.3%	-2000	13	-34		;	28000	20	1.5%	28
8	7	1.0%	0	79	0		:	32000	33	2.5%	32
TOTAL	680		2000	144	34		:	36000	20	1.5%	36
			4000	263	69			40000	15	1.2%	40
2-GATE S	SORTS	618	6000	322	103			44000	10	0.8%	44
DETECTR	SORTS	FREQ%	8000	345	137			48000	9	0.7%	48
8			10000	283	172		!	52000	8	0.6%	52
9	55	8.9%	12000	197	206		!	56000	10	0.8%	56
10	90	14.6%	14000	115	240			60000	6	0.5%	60
11	134	21.7%	16000	79	274		•	64000	9	0.7%	64
12	129	20.9%	18000	34	309		•	68000	5	0.4%	68
13	111	18.0%	20000	22	343		•	72000	4	0.3%	72
14	66	10.7%	22000	5	377			76000	4	0.3%	76
15	33	5.3%	24000	0	412		;	B0000	8	0.6%	80
TOTAL	618		26000	0	446		i	84000	1	0.1%	84
			>28000	0	0		>	84000	30	2.3%	>84
			TOTAL	1908				TOTAL	1298		
SUMMARY	TOTALS										
H	OT PARTI	ICLE EVENTS	1261		SORTS BY	ONE GA	TE ONL	Y	680		
٢	(ULT I PART	TICLE EVENTS	742		SORTS BY	TWO GA	<b>NTES</b>		618		
0	ISTRIBUT	TED EVENTS	3118								

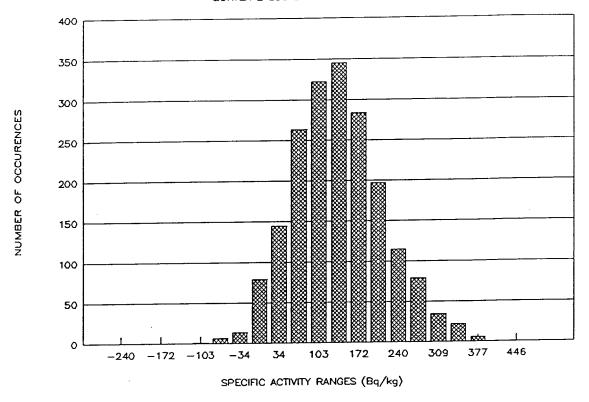
### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

2.00 Empty belt

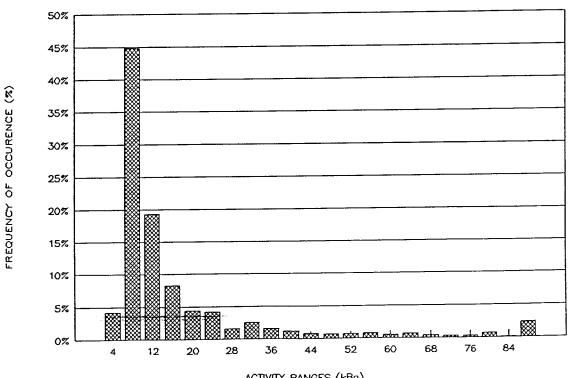
3.00 Test (No process soil)

SORTER 2 LOG DATA FOR 12-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES.

SORTER 2 LOG DATA FOR 12-Jul-93



SORTER 1 13-Jul-93				
AVERAGE BACKGROUND COUNT RATE	0.78 ±	0.04 c/sec		
SORTER SOIL DENSITY	1.3 tons/m³			
GROUND SOIL DENSITY	1.65 tons/m³			
		CONTAMINATED	CLEAN	
MASS TOTAL		0.37 tons	107.0 to	าร
MAXIMUM/SORT		5.8 kg	58.2 kg	
MINIMUM/SORT		0.7 kg	52.4 kg	
WEIGHT RECOVERY OR VOLUME RECOVER	Y			99.7%
EQUIVALENT SOIL-IN-GROUND		0.29 yd³	84.8 yd	85.1 yd3/day
PARTICLE ACTIVITY (MAXIMUM ESTIMA	TE)			
TOTAL		7,157 kBq		
MAXIMUM/SORT		335 kBq		
MINIMUM/SORT		2.9 kBq		
DISPERSED + PARTICLE (REALISTIC E	STIMATE) ACTIVITY	2,440 kBq	6,776 kBd	I
MAXIMUM/SORT		161 kBq	16 kBc	I
MINIMUM/SORT		0 Bq	-5 kBc	I
SPECIFIC ACTIVITY		6,580 Bq/kg	63 Bq/	kg
WORK HISTORY				
WORK DAY START	05:00 AM	WORK DAY END	04:30 PM	
PLANT START-UP	05:00 AM	PLANT SHUT-DOWN	04:30 PM	
START SOIL PROCESSING	05:35 AM	END SOIL PROCESSING	03:50 PM	
LUNCH START	11:30 AM	LUNCH PERIOD	0.0 hr	
WORK HOURS		11.5 hr		
AVAILABLE HOURS		11.5 hr		
	JRS (total 20-sec records)	10.25 hr		
DOWN-TIME	•	1.25 hr		
TOTAL SYSTEM PAUSE		0.00 hr		
NONAVAILABLE HOURS	5	0.0 hr		
START-UP		0.59 hr		
SHUT-DOWN		0.66 hr		
PLANT PERFORMANCE		89.1%		
PRODUCTIVITY		89.1%		
TOTAL SOIL PROCESSING RECORDS (2-S	SEC and 20-SEC)	2,189		
NONPROCESS RECORDS (Test, calibrat		11		
20-SEC PROCESS RECORDS	•	1,845		
TOTAL SORT		0 MD>0 & MND=0		
NO SORT		1,583 AD=0 & MD=0 &	MND>0	
SOME SORT		262 AD>0&0 <md<mnd< td=""><td>max&amp;MND<mndma< td=""><td>x</td></mndma<></td></md<mnd<>	max&MND <mndma< td=""><td>x</td></mndma<>	x
UNEXPLAINED RECORD	S	0		
0 <ad<1kbq &="" md="">0</ad<1kbq>	0		UNEXPLAIN	PAUSE
AD=0 &	MD 0		TIME	TIME
AD<0 &	MD 0		None	None
ACT_P <5 kBq	59 17.2%			

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,	CEC CO	UNT PERIODS				18,450				
2	-250 00	2-SEC RECORD	C LITTH C	OPTS		•	(ACT P >0 kB	a)		
		2-SEC RECORD			IN >1 DE		(11012)			
			DETECTO		82		81.2%			
		_	DETECTO		15		14.9%			
			DETECTO		4		4.0%			
			DETECTO		0		0.0%			
			DETECTO		0		0.0%			
			DETECTO		0		0.0%			
			DETECTO		0		0.0%			
			OTAL		•	101				
		NET 2-SEC RE		TH SORTS		243				
		2-SEC PERIOD				18,207				
		AVG TIME BET				151.9				
		N/G 11112 521								
1-GATE S	ORTS	170	ACT ND	NUMBER	SPEC A		ACT_P	SORT	FREQ%	ACT_P
DETECTR	SORTS		(Bq)		(Bq/kg)		(Bq)	(#)		(kBq)
DETECTION	••••		<b>V</b> = <b>4V</b>							
1	1	0.6%	-14000	0	-241		4000	13	3.8%	4
2	4	2.4%	-12000	0	-206		8000	142	41.3%	8
3	26	15.3%	-10000	3	-172		12000	53	15.4%	12
4	26	15.3%	-8000	3	-137		16000	33	9.6%	16
5	46	27.1%	-6000	2	-103		20000	16	4.7%	20
6	34	20.0%	-4000	7	-69		24000	13	3.8%	24
7	25	14.7%	-2000	30	-34		28000	15	4.4%	28
8	8	4.7%	0	146	0		32000	4	1.2%	32
TOTAL	170		2000	336	34	•	36000	9	2.6%	36
			4000	510	69		40000	6	1.7%	40
2-GATE SO	ORTS	174	6000	452	103		44000	3	0.9%	44
DETECTR	SORTS	FREQ%	8000	243	137		48000	4	1.2%	48
8			10000	82	172		52000	2		52
9	2	1.1%	12000	29	206		56000	3	0.9%	56
10	17	9.8%	14000	11	241		60000	2		60
11	25	14.4%	16000	1	275		64000	5	1.5%	64

SUMMARY TOTALS

TOTAL

SORTS BY ONE GATE ONLY HOT PARTICLE EVENTS SORTS BY TWO GATES MULTIPARTICLE EVENTS DISTRIBUTED EVENTS 

### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

26.4% 18000

>28000

TOTAL

24.1%

14.9%

9.2%

- 2.00 Empty belt
- 3.00 Test (No process soil)

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>84000

TOTAL

0.9%

0.9%

0.3%

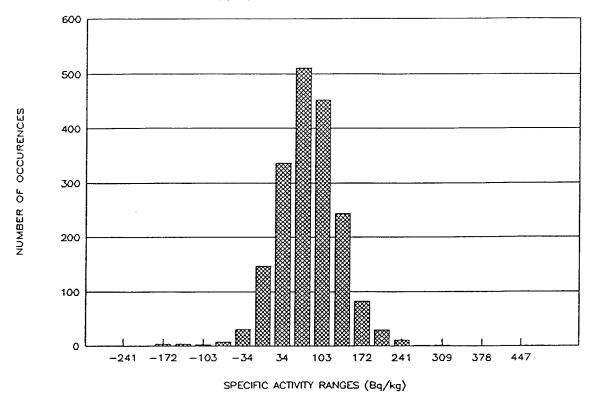
0.0%

0.0%

4.1%

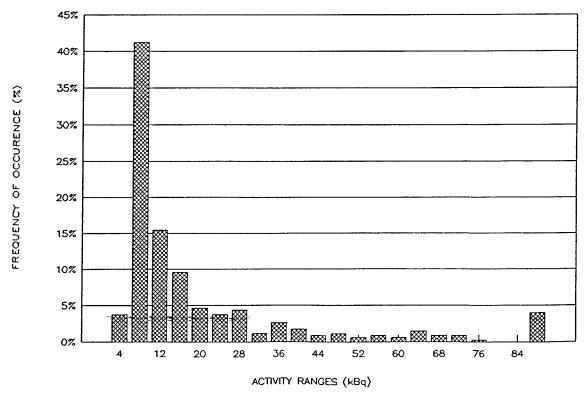
 >84

SORTER 1 LOG DATA FOR 13-Jul-93



### JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 1 LOG DATA FOR 13-Jul-93



SORTER 2 13-Jul-93				
AVERAGE BACKGROUND COUNT RATE	0.80 ±	0.02 c/sec		
SORTER SOIL DENSITY	1.3 tons/m³			
GROUND SOIL DENSITY	1.65 tons/m³			
		CONTAMINATED	CLEAN	
MASS TOTAL		0.41 tons	107.6 tons	<b>;</b>
MAXIMUM/SORT		4.4 kg	58.3 kg	
MINIMUM/SORT		0.7 kg	53.9 kg	
WEIGHT RECOVERY OR VOLUME RECOVE	RY			99.6%
EQUIVALENT SOIL-IN-GROUND		0.33 yd³	85.3 yd³	85.6 yd3/day
EGOLANCEM! SOLE IN GROOMS		•		
PARTICLE ACTIVITY (MAXIMUM ESTIM	IATE)			
TOTAL		7,526 kBq		
MAXIMUM/SORT		307 kBq		
MINIMUM/SORT		3.4 kBq		
DISPERSED + PARTICLE (REALISTIC	ESTIMATE) ACTIVITY	2,659 kBq	10,370 kBq	
MAXIMUM/SORT	ESTIMATE, NOTITION	159 kBq	20 kBq	
MINIMUM/SORT		0 Bq	-7 kBq	
SPECIFIC ACTIVITY		6,433 Bq/kg	96 Bq/k	g
3. 2311.3 1.311111				
WORK HISTORY				
WORK DAY START	05:00 AM	WORK DAY END	04:30 PM	
PLANT START-UP	05:00 AM	PLANT SHUT-DOWN	04:30 PM	
START SOIL PROCESSING	05:34 AM	END SOIL PROCESSING		
LUNCH START	11:30 AM	LUNCH PERIOD	0.0 hr	
WORK HOURS		11.5 hr		
AVAILABLE HOURS		11.5 hr		
	OURS (total 20-sec records)	10.29 hr		
DOWN-TIME		1.21 hr		
TOTAL SYSTEM PAU	SE	0.00 hr		
NONAVAILABLE HOU	RS	0.0 hr		
START-UP		0.57 hr		
SHUT-DOWN		0.64 hr		
PLANT PERFORMANC	E	89.5%		
PRODUCTIVITY		89.5%		
TOTAL SOIL PROCESSING RECORDS (2	-SEC and 20-SEC)	2,239		
NONPROCESS RECORDS (Test, calibr		3		
20-SEC PROCESS RECORDS	•	1,853		
TOTAL SORT		0 MD>0 & MND=0		
NO SORT		1,556 AD=0 & MD=0 &		
SOME SORT		297 AD>0&0 <md<mnd< td=""><td>max&amp;MND<mndmax< td=""><td>:</td></mndmax<></td></md<mnd<>	max&MND <mndmax< td=""><td>:</td></mndmax<>	:
UNEXPLAINED RECO	RDS	0		
0 <ad<1kbq &="" md="">0</ad<1kbq>	1		UNEXPLAIN	PAUSE
AD=0	& MD 0		TIME	TIME
AD<0			09:17:23	None
ACT_P <5 kBq	44 11.4%			

File S2JA0713.WR1

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2-SEC COUNT PERIODS	18,530	)
2-SEC RECORDS WITH SORTS	386	$6 (ACT_P > 0 kBq)$
2-SEC RECORDS WITH POSITIVES	IN >1 DETECTOR	₹
2 DETECTORS	86	80.4%
3 DETECTORS	18	16.8%
4 DETECTORS	3	2.8%
5 DETECTORS	0	0.0%
6 DETECTORS	0	0.0%
7 DETECTORS	0	0.0%
8 DETECTORS	0	0.0%
TOTAL	107	7
NET 2-SEC RECORDS WITH SORTS	279	)
2-SEC PERIODS WITH NO SORTS	18,25°	i
AVG TIME BETWEEN 2-SEC SORTS	132.8	3 sec

1-GATE S	ORTS	199	ACT ND	NUMBER	SPEC_A	ACT_P	SORT	FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)	(Bq)	(#)		(kBq)
1	8	4.0%	-14000	0	-240	4000	12	3.1%	4
2	37	18.6%	-12000	0	-206	8000	148	38.3%	8
3	29	14.6%	-10000	0	-172	12000	69	17.9%	12
4	34	17.1%	-8000	1	-137	16000	43	11.1%	16
5	38	19.1%	-6000	3	-103	20000	27	7.0%	20
6	33	16.6%	-4000	2	-69	24000	6	1.6%	24
7	19	9.5%	-2000	7	-34	28000	12	3.1%	28
8	1	0.5%	0	64	0	32000	6	1.6%	32
TOTAL	199		2000	171	34	36000	11	2.8%	36
			4000	357	69	40000	6	1.6%	40
2-GATE S	ORTS	187	6000	432	103	44000	4	1.0%	44
DETECTR	SORTS	FREQ%	8000	408	137	48000	4	1.0%	48
8			10000	254	172	52000	1	0.3%	52
9	20	10.7%	12000	87	206	56000	3	0.8%	56
10	28	15.0%	14000	38	240	60000	3	0.8%	60
11	32	17.1%	16000	19	274	64000	7	1.8%	64
12	37	19.8%	18000	6	309	68000	3	0.8%	68
13	31	16.6%	20000	6	343	72000	6	1.6%	72
14	30	16.0%	22000	1	377	76000	0	0.0%	76
15	9	4.8%	24000	0	412	80000	5	1.3%	80
TOTAL	187		26000	0	446	84000	0	0.0%	84
			>28000	0	0	>84000	10	2.6%	>84
			TOTAL	1856		TOTAL	386		
SUMMARY 1	TOTALS								
н	OT PARTIC	LE EVENTS	373		SORTS BY	ONE GATE ONLY	199		
M	JLTIPARTI	CLE EVENTS	193		SORTS BY	TWO GATES	187		
D	ISTRIBUTE	D EVENTS	0						

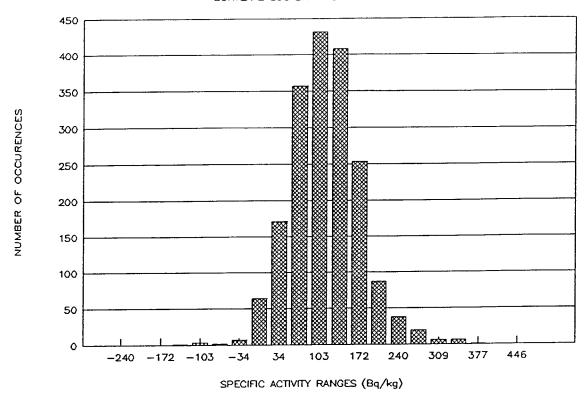
### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

2.00 Empty belt

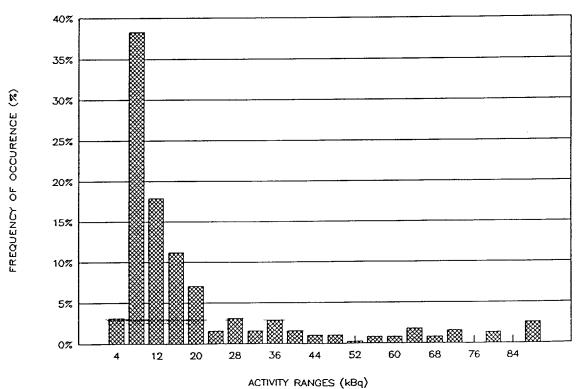
3.00 Test (No process soil)

SORTER 2 LOG DATA FOR 13-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 2 LOG DATA FOR 13-Jul-93



SORTER 1 14-Jul-93						
AVERAGE BACKGROUND COUNT RATE	0.75	± 0.05	c/sec			
SORTER SOIL DENSITY	1.3	tons/m³				
GROUND SOIL DENSITY	1.65	tons/m³				
			CONTAMINATED	CLEAN		
MASS TOTAL			0.35 tons	106.6		
MAXIMUM/SORT			5.1 kg	58.2	-	
MINIMUM/SORT			0.7 kg	53.1	kg	
WEIGHT RECOVERY OR VOLUME RECOVERY					9	9.7%
EQUIVALENT SOIL-IN-GROUND			0.27 yd3	84.5	yd³ 8	4.8 yd3/day
PARTICLE ACTIVITY (MAXIMUM ESTIMATE	:)		4 E1/ kpa			
TOTAL			6,514 kBq			
MAXIMUM/SORT			541 kBq 3.0 kBq			
MINIMUM/SORT			3.0 kbq			
DISPERSED + PARTICLE (REALISTIC EST	IMATE) ACTIVITY		2,226 kBq	7,917	kBq	
MAXIMUM/SORT			308 kBq	18	kBq	
MINIMUM/SORT			0 Bq	-12	kBq	
SPECIFIC ACTIVITY			6,430 Bq/kg	74	Bq/kg	
WORK HISTORY						
WORK DAY START	05:00 AM		WORK DAY END	04:30 PM		
PLANT START-UP	05:00 AM		PLANT SHUT-DOWN	04:30 PM		
START SOIL PROCESSING	05:27 AM		END SOIL PROCESSING	03:40 PM		
LUNCH START	11:30 AM		LUNCH PERIOD	0.0	hr	
WORK HOURS			11.5 hr			
AVAILABLE HOURS			11.5 hr			
ACTUAL PROCESS HOUS	S (total 20-sec re	cords)	10.21 hr			
DOWN-TIME		•	1.29 hr			
TOTAL SYSTEM PAUSE			0.01 hr			
NONAVAILABLE HOURS			0.0 hr			
START-UP			0.46 hr			
SHUT-DOWN			0.83 hr			
PLANT PERFORMANCE			88.8%			
PRODUCTIVITY			88.8%			
TOTAL SOIL PROCESSING RECORDS (2-SE	FC and 20-SEC)		2,181			
NONPROCESS RECORDS (Test, calibrat			2			
20-SEC PROCESS RECORDS	,,		1,838			
TOTAL SORT			0 MD>0 & MND=0			
NO SORT			1,582 AD=0 & MD=0 8	O <dam 3<="" td=""><td></td><td></td></dam>		
SOME SORT			256 AD>0&0 <md<mni< td=""><td></td><td>Dmax</td><td></td></md<mni<>		Dmax	
UNEXPLAINED RECORDS	5		0			
0 <ad<1kbq &="" md="">0</ad<1kbq>	0			UNEXPLAIN	PAU	SE
AD=0 & 0	AD 0			TIME		ME
AD<0 & 1	1D 0			None	08	:01
ACT_P <5 kBq	58 16.9%	4				

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18,380

_	300 00	0.11 1 2.112000				•					
		2-SEC RECORD	S WITH S	ORTS		343	(ACT_F	>0 kBq)			
		2-SEC RECORD	S WITH P	OSITIVES	IN >1 DE	ETECTOR					
		2	DETECTO	RS	71		82.6%				
		3	DETECTO	RS	12		14.0%				
		4	DETECTO	RS	3		3.5%				
		5	DETECTO	RS	0		0.0%				
		6	DETECTO	RS	0		0.0%				
		7	DETECTO	RS	0		0.0%				
		8	DETECTO	RS	0		0.0%				
		T	OTAL			86					
		NET 2-SEC RE	CORDS WI	TH SORTS		257					
		2-SEC PERIOD	S WITH N	O SORTS		18,123					
		AVG TIME BET	WEEN 2-S	EC SORTS		143.0	sec				
		4									
1-GATE SO	ORTS	175	ACT_ND	NUMBER	SPEC_A			ACT_P		FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)			(pg)	(#)		(kBq)
1	4	2.3%	-14000	0	-241			4000	19		4
2	17	9.7%	-12000	0	-206			8000	148		8
3	25	14.3%	-10000	1	-172			12000	54		12
4	29	16.6%	-8000	0	-137			16000	32		16
5	39	22.3%	-6000	2				20000	13		20
6	25	14.3%	-4000	3	-69			24000	18		24
7	29	16.6%	-2000	23	-34			28000	9		28
8	7	4.0%	0	104	0			32000	5		32
TOTAL	175		2000	284	34			36000	4	1.2%	36
			4000	455	69			40000	7		40
2-GATE SO	ORTS	168	6000	456	103			44000	2		44
DETECTR	SORTS	FREQ%	8000	299				48000	3		48
8			10000	151	172			52000	1		52
9	12	7.1%	12000	48	206			56000	2		56
10	19	11.3%	14000	10	241			60000	2		60
11	25	14.9%	16000	3	275			64000	4	1.2%	64
12	39	23.2%	18000	1	309			68000	4	1.2%	68
13	39	23.2%	20000	0	344			72000	2		72
14	21	12.5%	22000	0	378			76000	3		76
15	13	7.7%	24000	0	412			80000	2		80
TOTAL	168		26000	0	447			84000	1		84
			>28000	0	0		>	84000	8	2.3%	>84
			TOTAL	1840				TOTAL	343		

### REC CODE EXPLANATION

SUMMARY TOTALS

1.00 Source check (Soil on belt)

341

0

2.00 Empty belt

HOT PARTICLE EVENTS

DISTRIBUTED EVENTS

MULTIPARTICLE EVENTS 133

2-SEC COUNT PERIODS

3.00 Test (No process soil)

File S1JA0714.WR1

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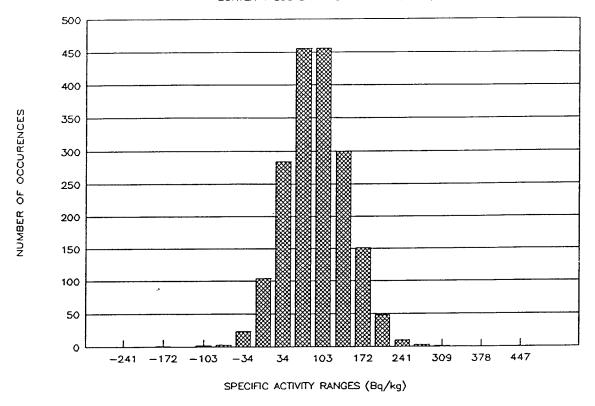
175

168

SORTS BY ONE GATE ONLY

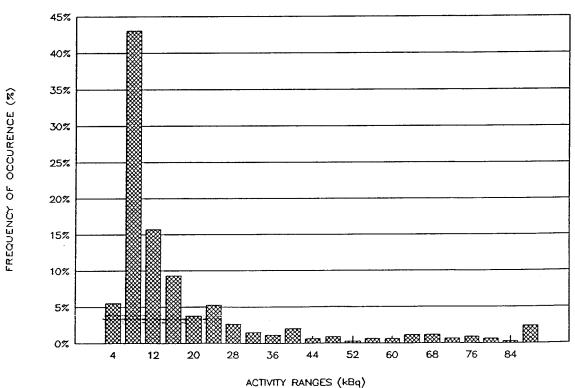
SORTS BY TWO GATES

SORTER 1 LOG DATA FOR 14-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 1 LOG DATA FOR 14-Jul-93



SORTER 2	14-Jul-93									
AVERAGE BACKGROUN	ND COUNT RATE		0.80	±	0.01	c/sec				
SORTER SOIL DENSI			1.3	tons/m³	3					
GROUND SOIL DENSI			1.65	tons/m³						
andono delle deme						CONTAM	INATED	CLEAN		
MASS TOTAL						0.37	tons	106.3		
MAXIMUM/SO	DRT					8	kg	58.3		
MINIMUM/SO	ORT					0.7	kg	50.2	kg	
										99.7%
WEIGHT RECOVERY	OR VOLUME RECOVERY							84.3	v.d3	84.6 yd3/day
EQUIVALENT SOIL-	IN-GROUND					0.29	Aq,	04.3	yu	84.0 ya /da/
PARTICLE ACTIVITY	(MAXIMUM ESTIMATE	)				7,595	kga			
TOTAL						207				
MAXIMUM/SO						3.3	=			
MINIMUM/SO	ORT					٠	KDQ			
	ICLE (REALISTIC EST	IMATEL ACTIV	ITY			2,536	kBq	10,570	kBq	
		IMALE) ACTIV				•	kBq		kBq	
MAXIMUM/SO							Bq	-3	kBq	
MINIMUM/SC							Bq/kg	99	Bq/kg	
SPECIFIC /	ACTIVITI					•				
WORK HISTORY										
WORK DAY	START	05:00 AM				WORK D	AY END	04:30 PM		
PLANT STAI		05:00 AM				PLANT S	NWOD-TUHS	04:30 PM		
	L PROCESSING	05:29 AM				END SO	IL PROCESSING	03:38 PM		
LUNCH STA	RT	11:30 AM				LUNCH 1	PER I OD	0.0	hr	
,	WORK HOURS						11.5 hr			
	AVAILABLE HOURS						11.5 hr 10.17 hr			
	ACTUAL PROCESS HOUR	S (total 20-	sec re	ecords)			1.33 hr			
	DOWN-TIME						0.00 hr			
	TOTAL SYSTEM PAUSE						0.00 hr			
	NONAVAILABLE HOURS						0.48 hr			
	START-UP						0.85 hr			
	SHUT-DOWN						88.4%			
	PLANT PERFORMANCE						88.4%			
•	PRODUCTIVITY									
TOTAL SOLL BROCE	SSING RECORDS (2-SE	C and 20-SEC	)				2,174			
	DS (Test, calibrati		•				11			
	OCESS RECORDS					1,830				
	TOTAL SORT					0	MD>0 & MND=0			
	NO SORT						AD=0 & MD=0 &			
	SOME SORT					263	AD>0&0 <md< td=""><td>M&gt;0MM&amp;xem0</td><td>NDmax</td><td></td></md<>	M>0MM&xem0	NDmax	
	UNEXPLAINED RECORDS	;				0				
	0 <ad<1kbq &="" md="">0</ad<1kbq>	0						UNEXPLAI	N	PAUSE
	AD=0 & M	D O						TIME		TIME
	AD<0 & M	ID 0						None		None
	ACT_P <5 kBq	53	15.43	X						

File S2JA0714.WR1

P

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1

344 (ACT\_P >0 kBq)

18,300

							-			
		2	DETECTO	RS	95		83.3%			
		3	DETECTO	RS	17		14.9%			
		4	DETECTO	RS	2		1.8%			
		5	DETECTO	RS	0		0.0%			
		6	DETECTO	RS	0		0.0%			
		7	DETECTO	RS	0		0.0%			
		8	DETECTO	RS	0		0.0%			
		ī	OTAL			114				
		NET 2-SEC RE	CORDS WI	TH SORTS		230				
		2-SEC PERIOD				18,070				
		AVG TIME BET	WEEN 2-S	EC SORTS		159.1	l sec			
1-GATE	SORTS	172	ACT_ND	NUMBER	SPEC_A		ACT_P	SORT	FREQ%	ACT_P
DETECT	R SORTS	FREQ%	(Bq)	(#)	(Bq/kg)		(Bq)	(#)		(kBq)
1	9	5.2%	-14000	0	-240		4000	9	2.6%	4
2	28		-12000	0	-206		8000	141	41.0%	8
3	21	12.2%	-10000	0	-172		12000	46	13.4%	12
4	32	18.6%	-8000	1	-137		16000	29	8.4%	16
5	32	18.6%	-6000	4	-103		20000	19	5.5%	20
6	23	13.4%	-4000	1	-69		24000	18	5.2%	24
7	22	12.8%	-2000	15	-34		28000	11	3.2%	28
8	5	2.9%	0	49	0		32000	6	1.7%	32
TOTAL	172		2000	174	34		36000	4	1.2%	36
			4000	295	69		40000	3	0.9%	40
2-GATE	SORTS	172	6000	401	103		44000	7	2.0%	44
DETECTR	SORTS	FREQ%	8000	448	137		48000	3	0.9%	48
8			10000	296	172		52000	4	1.2%	52
9	19	11.0%	12000	113	206		56000	7	2.0%	56
10	23	13.4%	14000	36	240		60000	7	2.0%	60
11	29	16.9%	16000	7	274		64000	2	0.6%	64
12	31	18.0%	18000	1	309		68000	3	0.9%	68
13	29	16.9%	20000	0	343		72000	3	0.9%	72
14	26	15.1%	22000	0	377		76000	4	1.2%	76
15	15	8.7%	24000	0	412		80000	2	0.6%	80
TOTAL	172		26000	0	446		84000	2	0.6%	84
			>28000	0	0		>84000	14	4.1%	>84
			TOTAL	1841			TOTAL	344		
SUMMARY	TOTALS									
	HOT PARTI	CLE EVENTS	339		SORTS BY	ONE G	ATE ONLY	172		
	MULTIPART	ICLE EVENTS	171		SORTS BY	TWO G	ATES	172		
	DISTRIBUT	ED EVENTS	0							

#### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

2.00 Empty belt

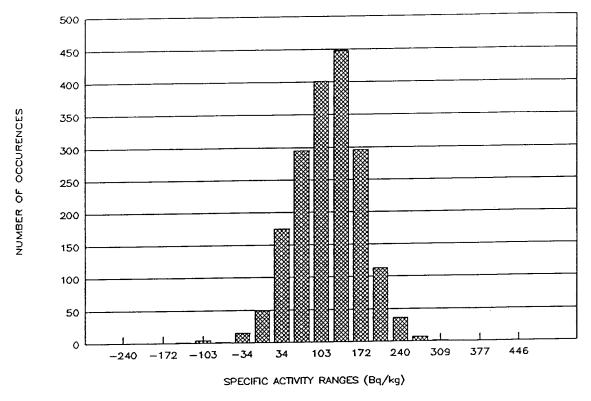
2-SEC COUNT PERIODS

2-SEC RECORDS WITH SORTS

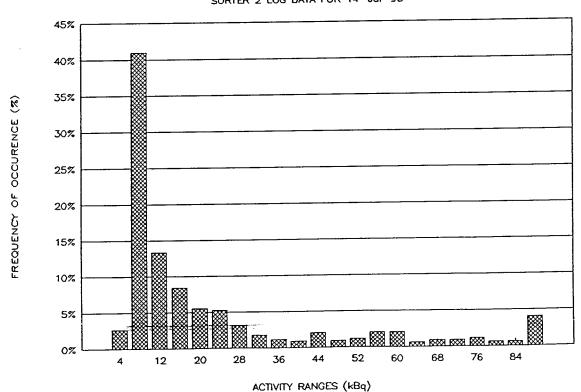
2-SEC RECORDS WITH POSITIVES IN >1 DETECTOR

3.00 Test (No process soil)

SORTER 2 LOG DATA FOR 14-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES SORTER 2 LOG DATA FOR 14-Jul-93



SORTER 1 15-Jul-93								
AVERAGE BACKGROUND COUNT RATE		0.74	± 0	.05 c/sec				
SORTER SOIL DENSITY		1.3	tons/m³					
GROUND SOIL DENSITY		1.65	tons/m³					
				CONTAR	INATED	CLEAN		
MASS TOTAL				0.34	tons	94.2	tons	
MAXIMUM/SORT				61.1	kg	58.2	kg	
MINIMUM/SORT				0.7	kg kg	52.4	kg	
								99.6%
WEIGHT RECOVERY OR VOLUME RECO	OVERY					7/ 7		75.0 yd³/day
EQUIVALENT SOIL-IN-GROUND				0.27	yd³	74.7	yu	73.0 yu 7day
PARTICLE ACTIVITY (MAXIMUM EST	IMATE)							
TOTAL				5,437	kBq			
MAXIMUM/SORT					' kBq			
MINIMUM/SORT				2.9	kBq			
						_		
DISPERSED + PARTICLE (REALISTI	C ESTIMATE) ACTIVI	TY		1,846		7,096	-	
MAXIMUM/SORT					kBq	17		
MINIMUM/SORT					) 8q		k8q	
SPECIFIC ACTIVITY				5,435	Bq/kg	75	Bq/kg	
WORK HISTORY								
WORK DAY START	05:00 AM			WORK D	AY END	03:30 PM		
PLANT START-UP	05:00 AM			PLANT	SHUT-DOWN	03:30 PM		
START SOIL PROCESSING	05:43 AM			END SC	IL PROCESSING	02:52 PM		
LUNCH START	11:30 AM			LUNCH	PERIOO	0.0	hr	
HOOK HOURO					10.5 hr			
WORK HOURS	c				10.5 hr			
AVAILABLE HOUR	s HOURS (total 20-s	soc re	corde)		9.03 hr			
DOWN-TIME	nooks (totat 20 s	300 10	cor <b>u</b> 3,		1.47 hr			
TOTAL SYSTEM P	ALICE				0.14 hr			
NONAVAILABLE H					0.0 hr			
START-UP	ooks				0.73 hr			
SHUT-DOWN					0.62 hr			
PLANT PERFORMA	NCE				86.0%			
PRODUCTIVITY					86.0%			
					4 007			
TOTAL SOIL PROCESSING RECORDS		)			1,894			
NONPROCESS RECORDS (Test, cali	bration, etc)			4 /25	22			
20-SEC PROCESS RECORDS				1,625				
TOTAL SORT					MD>0 & MND=0 AD=0 & MD=0 &	MNU20		
NO SORT				•	AD>0& MD=0 & AD>0&0 <md<mnd< td=""><td></td><td>Oma¥</td><td></td></md<mnd<>		Oma¥	
SOME SORT	CORDS			212		MEN UNITED ASSESSED	CHEA	
UNEXPLAINED RE				·		UNEXPLAIN	£	AUSE
0 <ad<1kbq &="" md<="" td=""><td>-</td><td></td><td></td><td></td><td></td><td>TIME</td><td>•</td><td>TIME</td></ad<1kbq>	-					TIME	•	TIME
	0 & MD 1 0 & MD 0					06:19:28		06:11
AUS ACT_P <5 kBq		24.5%				30		
201_1 3 KD4								

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2-SEC COUNT PERIODS					16,250						
2-SEC RECORDS WITH SORTS				269	(ACT_P	>0 kBq)					
2-SEC RECORDS WITH POSITIVES			IN >1 DE	TECTOR							
		2	DETECTOR	RS	70		85.4%				
3 DETECTORS			11		13.4%						
		4	DETECTOR	RS	1		1.2%				
		5	DETECTOR	RS	0		0.0%				
		6	DETECTOR	RS	0		0.0%				
		7	DETECTOR	RS	0		0.0%				
		8	DETECTOR	RS	0		0.0%				
		T	OTAL			82					
		NET 2-SEC RE	CORDS WIT	TH SORTS		187					
		2-SEC PERIOD	S WITH NO	SORTS		16,063					
		AVG TIME BET	WEEN 2-SE	EC SORTS		173.8	sec				
1-GATE SC	RTS	142	ACT_ND	NUMBER	SPEC_A			ACT_P		FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)			(Bq)	(#)		(kBq)
										- 44	,
1	2	1.4%	-14000	0	-241			4000	20	7.4%	4
2	13	9.2%	-12000	0	-206			8000	101	37.5%	8
3	24	16.9%	-10000	2	-172			12000	44	16.4%	12
4	21	14.8%	-8000	4	-137			16000	38	14.1%	16
5	21	14.8%	-6000	7	-103			20000	8	3.0%	20
6	25	17.6%	-4000	11	-69			24000	6	2.2%	24
7	28	19.7%	-2000	18	-34			28000	8	3.0%	28
8	8	5.6%	0	93	0			32000	5	1.9%	32
TOTAL	142		2000	224	34			36000	2	0.7%	<b>3</b> 6 40
			4000	408	69			40000	3	1.1%	
2-GATE SC	ORTS	127	6000	432	103			44000	1	0.4%	44 48
DETECTR	SORTS	FREQ%	8000	286	137			48000	1 -	0.4%	
8			10000	116	172			52000	3	1.1%	52

	•••						
TOTAL	. 127	26000	0	44	7	84000	0
		>28000	0		0	>84000	6
		TOTAL	1647			TOTAL	269
SUMMAR	Y TOTALS						
	HOT PARTICLE EVENTS	264		SORTS	BY C	ONE GATE ONLY	142
	MULTIPARTICLE EVENTS	118		SORTS	BY 1	TWO GATES	127
	DISTRIBUTED EVENTS	83					

3.9%

11.8%

24.4%

15.7%

16.5%

14.2%

13.4%

### REC CODE EXPLANATION

- 1.00 Source check (Soil on belt)
- 2.00 Empty belt
- 3.00 Test (No process soil)

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>84

1.5%

2.2%

0.7%

0.7%

1.5%

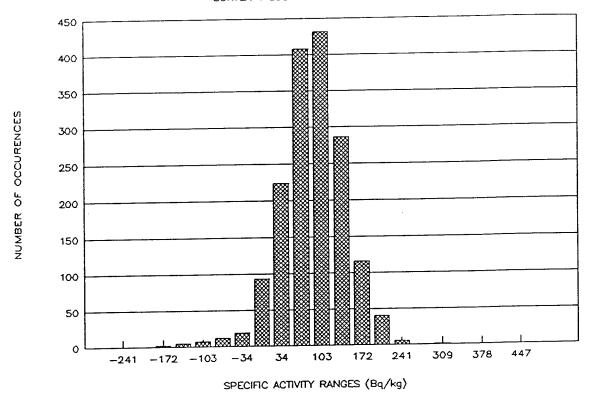
0.7%

1.1%

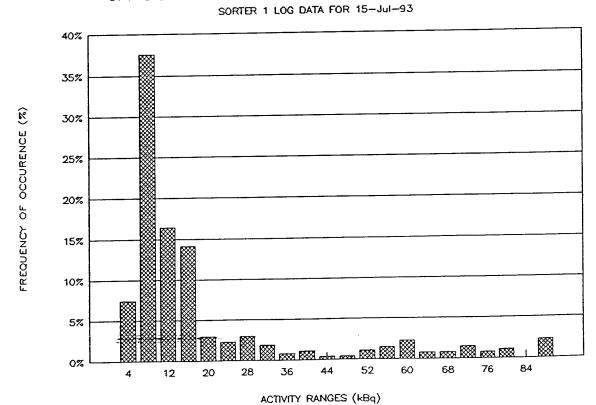
0.0%

2.2%

SORTER 1 LOG DATA FOR 15-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES



SORTER 2 15-Jul-93				
AVERAGE BACKGROUND COUNT RATE	0.79	± 0.03 c/sec		
SORTER SOIL DENSITY	1.3 t	ons/m³		
GROUND SOIL DENSITY	1.65 t	ons/m³		
dicollo core contra		CONTAMINATED	CLEAN	
MASS TOTAL		0.35 tons	95.3 tons	
MAXIMUM/SORT		61.3 kg	58.3 kg	
MINIMUM/SORT		0.7 kg	52.4 kg	
WEIGHT RECOVERY OR VOLUME RECOVERY				99.6%
EQUIVALENT SOIL-IN-GROUND		0.28 yd³	75.5 yd³	75.8 yd³/day
PARTICLE ACTIVITY (MAXIMUM ESTIMAT	E)			
TOTAL		6,927 kBq		
MAXIMUM/SORT		<b>7</b> 59 kBq		
MINIMUM/SORT		3.8 kBq		
DISPERSED + PARTICLE (REALISTIC ES	TIMATE) ACTIVITY	2,291 kBq	2,691 kBq	
MAXIMUM/SORT		345 k8q	14 kBq	
MINIMUM/SORT		0 Bq	-8 kBq	
SPECIFIC ACTIVITY		6,552 Bq/kg	28 Bq/kg	Ī
WORK HISTORY				
WORK DAY START	05:00 AM	WORK DAY END	03:30 PM	
PLANT START-UP	05:00 AM	PLANT SHUT-DOWN	03:30 PM	
START SOIL PROCESSING	05:43 AM	END SOIL PROCESSING		
LUNCH START	11:30 AM	LUNCH PERIOD	0.0 hr	
WORK HOURS		10.5 hr		
AVAILABLE HOURS		10.5 hr		
ACTUAL PROCESS HOU	RS (total 20-sec rec			
DOWN-TIME		1.39 hr		
TOTAL SYSTEM PAUSE		0.14 hr		
NONAVAILABLE HOURS		0.0 hr		
START-UP		0.73 hr		
SHUT-DOWN		0.54 hr		
PLANT PERFORMANCE		86.8%		
PRODUCTIVITY		86.8%		
		1 027		
TOTAL SOIL PROCESSING RECORDS (2-S		1,923		
NONPROCESS RECORDS (Test, calibrat	ion, etc)	7		
20-SEC PROCESS RECORDS		1,640		
TOTAL SORT		1 MD>0 & MND=0	NND>U	
NO SORT		1,420 AD=0 & MD=0 & 219 AD>0&0 <md<mnu< td=""><td></td><td></td></md<mnu<>		
SOME SORT			XEHIUNE UNEBANH	
UNEXPLAINED RECORD		0	UNEXPLAIN	PAUSE
0 <ad<1kbq &="" md="">0</ad<1kbq>	0			TIME
AD=0 &			TIME 04-10-28	06:11
AD<0 &			06:19:28	· · · · · ·
ACT_P <5 kBq	31 11.0%			

File S2JA0715.WR1

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16,400

2-SEC RECORDS WITH SORTS 283 (ACT\_P >0 kBq)

2-SEC RECORDS WITH POSITIVES IN >1 DETECTOR

		2	DETECTO	RS	64		86.5%				
		3	DETECTO	RS	10		13.5%				
		4	DETECTO	RS	0		0.0%				
		5	DETECTO	RS	0		0.0%				
		6	DETECTO	RS	0		0.0%				
		7	DETECTO	RS	0		0.0%				
		8	DETECTO	RS	0		0.0%				
		1	OTAL			74	4				
		NET 2-SEC RE	CORDS WI	TH SORTS		209	7				
		2-SEC PERIOD	S WITH N	O SORTS		16,19	1				
		AVG TIME BET	WEEN 2-S	EC SORTS		156.9	9 sec				
1-GATE S	ORTS	159	ACT_ND	NUMBER	SPEC_A			ACT_P	SORT	FREQX	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)			(Bq)	(#)		(kBq)
1	6	3.8%	-14000	0	-240			4000	4	1.4%	4
2	23		-12000	0	-206			8000	99	35.0%	8
3	23	14.5%	-10000	1	-172			12000	62	21.9%	12
4	36	22.6%	-8000	1	-137			16000	35	12.4%	16
5	28	17.6%	-6000	9	-103			20000	9	3.2%	20
6	23	14.5%	-4000	56	-69			24000	15	5.3%	24
7	16	10.1%	-2000	131	-34			28000	9	3.2%	28
8	4	2.5%	0	311	0		:	32000	2	0.7%	32
TOTAL	159		2000	452	34		:	36000	2	0.7%	36
			4000	334	69			40000	5	1.8%	40
2-GATE S	ORTS	124	6000	183	103			44000	4	1.4%	44
DETECTR	SORTS	FREQ%	8000	108	137			48000	4	1.4%	48
8			10000	40	172		!	52000	1	0.4%	52
9	9	7.3%	12000	15	206		!	56000	2	0.7%	56
10	14	11.3%	14000	5	240		•	60000	3	1.1%	60
11	21	16.9%	16000	1	274			64000	1	0.4%	64
12	28	22.6%	18000	0	309		•	68000	6	2.1%	68
13	22	17.7%	20000	0	343			72000	3	1.1%	72
14	20	16.1%	22000	0	377			76000	5	1.8%	76
15	10	8.1%	24000	0	412			B0000	2	0.7%	80
TOTAL	124		26000	0	446		i	84000	1	0.4%	84
			>28000	0	0			84000	9	3.2%	>84
			TOTAL	1647			•	TOTAL	283		
SUMMARY	TOTALS										
		ICLE EVENTS	258		SORTS BY			Y	159		
M	ULTIPAR	TICLE EVENTS	138		SORTS BY	TWO C	ATES		124		

#### REC CODE EXPLANATION

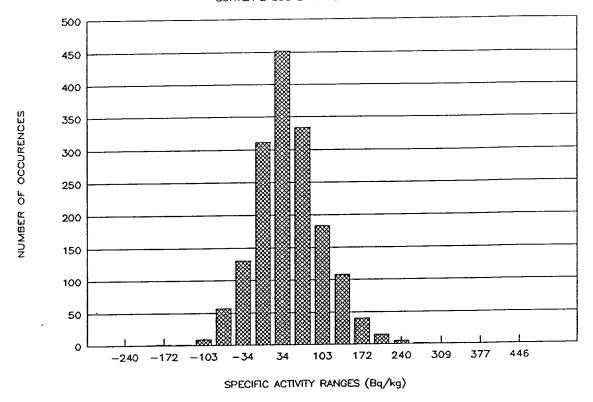
1.00 Source check (Soil on belt)

2.00 Empty belt

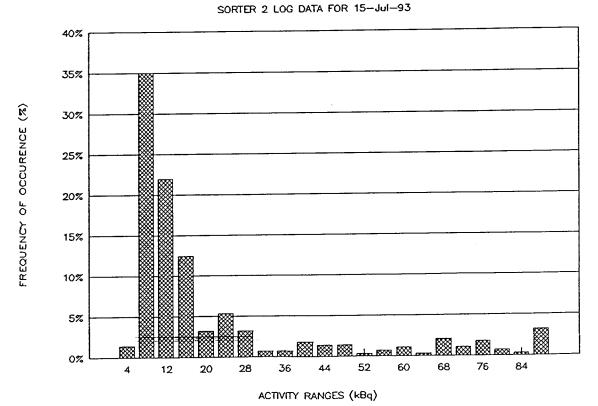
DISTRIBUTED EVENTS 84

2-SEC COUNT PERIODS

SORTER 2 LOG DATA FOR 15-Jul-93



## JA SOIL CLEANUP PLANT HOT PARTICLES



SORTER 1 16-Jul-93					
AVERAGE BACKGROUND COUNT RATE		0.74 ±	0.04 c/sec		
SORTER SOIL DENSITY		1.3 tons/m³			
GROUND SOIL DENSITY		1.65 tons/m <sup>3</sup>			
GROOM GOTE GENERAL		•	CONTAMINATED	CLEAN	
MASS TOTAL			0.72 tons	81.5 to	ens
MAXIMUM/SORT			58.2 kg	58.2 kg	•
MINIMUM/SORT			0.7 kg	49.5 kg	
WEIGHT RECOVERY OR VOLUME RECOVERY					99.1%
EQUIVALENT SOIL-IN-GROUND			0.57 yd³	64.6 yd	3 65.2 yd3/day
PARTICLE ACTIVITY (MAXIMUM ESTIMAT	E)				
TOTAL			9,465 kBq		
MAXIMUM/SORT			589 kBq		
MINIMUM/SORT			2.9 kBq		
			7 //0 / 5	7 (5) (5)	_
DISPERSED + PARTICLE (REALISTIC ES	TIMATE) ACTIV	ITY	3,460 kBq	7,456 kB	
MAXIMUM/SORT			300 kBq	21 kB	•
MINIMUM/SORT			0 Bq	-4 k8	•
SPECIFIC ACTIVITY			4,807 Bq/kg	92 Bq	/kg
WORK HISTORY					·
WORK DAY START	05:00 AM		WORK DAY END	03:30 PM	
PLANT START-UP	05:00 AM		PLANT SHUT-DOWN	03:30 PM	
START SOIL PROCESSING	05:43 AM		END SOIL PROCESSING		
LUNCH START	11:30 AM		LUNCH PERIOD	0.5 hr	
WORK HOURS			10.0 hr		
AVAILABLE HOURS			10.0 hr		
ACTUAL PROCESS HOUR	RS (total 20-s	sec records)	7.84 hr		
DOWN-TIME			2.16 hr		
TOTAL SYSTEM PAUSE			1.50 hr		
NONAVAILABLE HOURS			0.0 hr		
START-UP			0.73 hr		
SHUT-DOWN			0.44 hr		
PLANT PERFORMANCE			78.4%		
PRODUCTIVITY			78.4%		
-					
TOTAL SOIL PROCESSING RECORDS (2-SE		•	1,982		
NONPROCESS RECORDS (Test, calibrati	ion, etc)		1		
20-SEC PROCESS RECORDS			1,412		
TOTAL SORT			2 MD>0 & MND=0	441D- A	
NO SORT			1,090 AD=0 & MD=0 &		
SOME SORT			320 AD>0&0 <md<mnd< td=""><td>max&amp;muD<mndm< td=""><td>ЗХ</td></mndm<></td></md<mnd<>	max&muD <mndm< td=""><td>ЗХ</td></mndm<>	ЗХ
UNEXPLAINED RECORDS			0		DALICE
0 <ad<1kbq &="" md="">0</ad<1kbq>	0			UNEXPLAIN	PAUSE
AD=0 & M				TIME	TIME
AD<0 & M		20.20		None	11:25
ACT_P <5 kBq	115	20.2%			

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104

570 (ACT\_P >0 kBq)

14,120

		Z-SEC KECOKE	2 MIIII 2	OKIS		5.0	(				
		2-SEC RECORD	S WITH P	OSITIVES	IN >1 DE	TECTOR					
		2	DETECTO	RS	134		82.7%				
		3	DETECTO	RS	25		15.4%				
		4	DETECTO	RS	3		1.9%				
		5	DETECTO	RS	0		0.0%				
		6	DETECTO	RS	0		0.0%				
		7	DETECTO	RS	0		0.0%				
		8	DETECTO	RS	0		0.0%				
		1	OTAL			162					
		NET 2-SEC RE	CORDS WI	TH SORTS		408					
		2-SEC PERIOD	S WITH N	O SORTS		13,712					
		AVG TIME BET	WEEN 2-S	EC SORTS		69.2	sec				
					0050 4			ACT D	CODT	FREQ%	ACT_P
1-GATE S		291	ACT_ND		SPEC_A			ACT_P		FREUM	(kBq)
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)			(Bq)	(#)		(KBQ)
1	1	0.3%	-14000	0	-241			4000	28	4.9%	4
2	20			0	-206			8000	263	46.1%	8
3	39		-10000	1				12000	99	17.4%	12
4	51	17.5%	-8000	0	-137			16000	42	7.4%	16
5	59		-6000	0				20000	26	4.6%	20
6	52	17.9%	-4000	1	-69			24000	22	3.9%	24
7	48	16.5%	-2000	19	-34			28000	15	2.6%	28
8	21	7.2%	0	61	0			32000	14	2.5%	32
TOTAL	291		2000	187	34			36000	7	1.2%	36
			4000	316	69			40000	5	0.9%	40
2-GATE S	ORTS	279	6000	349	103			44000	10	1.8%	44
DETECTR	SORTS	FREQ%	8000	200	137			48000	5	0.9%	48
8			10000	125	172			52000	6	1.1%	52
9	6	2.2%	12000	62	206			56000	2	0.4%	56
10	33	11.8%	14000	28	241			60000	4	0.7%	60
11	48	17.2%	16000	33	275			64000	1	0.2%	64
12	60	21.5%	18000	20	309			68000	2	0.4%	68
13	54	19.4%	20000	7	344			72000	5	0.9%	72
14	43	15.4%	22000	4	378			76000	1	0.2%	76
15	35	12.5%	24000	0	412			00008	2	0.4%	80
TOTAL	279		26000	0	447			84000	2	0.4%	84
			>28000	0	0		>	84000	9	1.6%	>84
			TOTAL	1413				TOTAL	570		
SUMMARY	TOTALS										
H	OT PART	ICLE EVENTS	551		SORTS BY			.Υ	291		
		TICLE EVENTS	286		SORTS BY	TWO GA	TES		279		
D	ISTRIBU	TED EVENTS	152								

### REC CODE EXPLANATION

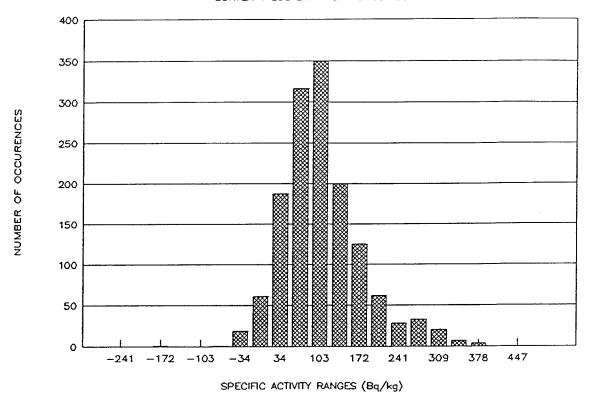
1.00 Source check (Soil on belt)

2.00 Empty belt

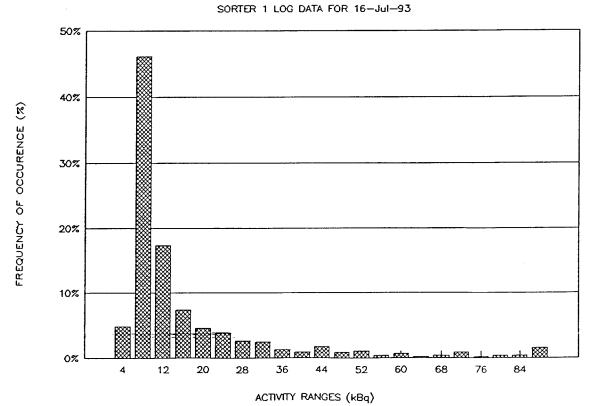
2-SEC COUNT PERIODS

2-SEC RECORDS WITH SORTS

SORTER 1 LOG DATA FOR 16-Jul-93



### JA SOIL CLEANUP PLANT HOT PARTICLES



SORTER 2	16-Jul-93									
AVERAGE BACKGRO	IND COUNT RATE		0.79	t	0.03	c/sec				
SORTER SOIL DEN			1.3	tons/m³	:					
GROUND SOIL DEN			1.65	tons/m³	;					
aroons sole sen	•••					CONTAMI	NATED	CLEAN		
MASS TOTAL						0.78	tons	81.2	tons	
MAXIMUM/	SORT					58.3	kg	58.3	kg	
MINIMUM/	_					0.7	kg	50.2	kg	
WEIGHT RECOVERY	OR VOLUME RECOVERY									99.0%
EQUIVALENT SOIL						0.62	yd3	64.3	yd3	65.0 yd3/day
PARTICLE ACTIVI	TY (MAXIMUM ESTIMATE	<b>:</b> )					_			
TOTAL						16,341				
MAXIMUM/	SORT					1,783	-			
MINIMUM/	SORT					3.2	kBq			
						/ 073	Lo-	3,607	kRa	
DISPERSED + PAR	TICLE (REALISTIC EST	IMATE) ACTIV	/ITY			4,832 1112	•	-	kBq	
MAXIMUM/	SORT	•				-142	•		kBq	
MINIMUM/						6,176	•		Bq/kg	
SPECIFIC	ACTIVITY					0,170	pd/ va	• • • • • • • • • • • • • • • • • • • •		
HOOK WICTORY										
WORK HISTORY WORK DAY	CTADT	05:00 AM				WORK DA	Y END	03:30 PM		
PLANT ST		05:00 AM				PLANT S	SHUT-DOWN	03:30 PM		
	IL PROCESSING	05:43 AM				END SOI	L PROCESSING	03:01 PM		
LUNCH ST		11:30 AM				LUNCH P	PERIOD	0.5	hr	
	WORK HOURS						10.0 hr			
	AVAILABLE HOURS						10.0 hr			
	ACTUAL PROCESS HOUR	RS (total 20-	-sec re	cords)			7.81 hr			
	DOWN-TIME						2.19 hr			
	TOTAL SYSTEM PAUSE						1.50 hr			
	NONAVAILABLE HOURS						0.0 hr 0.73 hr			
	START-UP						0.73 M 0.47 hr			
	SHUT-DOWN						78.1%			
	PLANT PERFORMANCE						78.1%			
	PRODUCTIVITY						70.1%			
TOTAL COLL BROC	ESSING RECORDS (2-SE	C and 20-SE	<b>(1)</b>				2,046			
	RDS (Test, calibrat		•,				7			
	ROCESS RECORDS					1,406				
20 320 1	TOTAL SORT						MD>0 & MND=0			
	NO SORT					1,060	AD=0 & MD=0 8	MND>0		
	SOME SORT					343	AD>0&0 <md<< td=""><td>max&amp;MND<m< td=""><td>NDmax</td><td></td></m<></td></md<<>	max&MND <m< td=""><td>NDmax</td><td></td></m<>	NDmax	
	UNEXPLAINED RECORDS	S				1				
	0 <ad<1kbq &="" md="">0</ad<1kbq>	23						UNEXPLAI	N 1	PAUSE
	AD=0 & I	MD 0						TIME		TIME
	AD<0 & 1	4D 1						05:48:34		11:25
	ACT_P <5 kBq	87	13.6%	<b>'</b>				05:48:54		

File S2JA0716.WR1

1

Printed on 07/19/93 at 10:38:05 AM

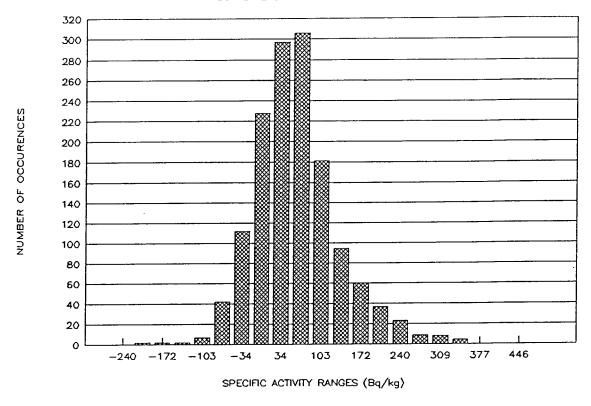
	2-SEC CO	UNT PERIODS				14,060					05:49:14
	2 320 00	2-SEC RECORD	S WITH S	CORTS			(ACT P	>0 kBq)			05:51:54
		2-SEC RECORD			IN >1 DE		(,,,,,,				05:52:54
			DETECTO		134		86.5%				05:53:34
			DETECTO		19		12.3%				05:56:14
			DETECTO		1		0.6%				05:58:14
			DETECTO		1		0.6%				05:59:14
			DETECTO		0		0.0%				05:59:34
			DETECTO		0		0.0%				06:03:34
			DETECTO		0		0.0%			f	06:10:54
			OTAL			155				1	06:12:14
		NET 2-SEC RE		TH SORTS		485				í	06:19:14
		2-SEC PERIOD				13,575				1	06:20:34
		AVG TIME BET				58.0	sec			(	More
1-GATE	SORTS	302	ACT_ND	NUMBER	SPEC_A		,	ACT_P	SORT	FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)			(Bq)	(#)		(kBq)
1	19	6 3%	-14000	0	-240			4000	19	3.0%	4
2	35			2				8000	240		
3	47		-10000	2			1	12000	98		
4	53		-8000	2				16000	58		
5	63		-6000	7				20000	34	5.3%	
6	41	13.6%	-4000	42	-69			24000	40	6.3%	24
7	37		-2000	112	-34			28000	17	2.7%	28
8	7	2.3%	0	227	0		3	2000	19	3.0%	32
TOTAL	302		2000	297	34		3	6000	17	2.7%	36
			4000	306	69		4	0000	14	2.2%	40
2-GATE	SORTS	338	6000	181	103		4	4000	5	0.8%	44
DETECTR	SORTS	FREQ%	8000	94	137		4	8000	9	1.4%	48
8			10000	60	172		5	2000	5	0.8%	52
9	25	7.4%	12000	37	206		5	6000	5	0.8%	56
10	32	9.5%	14000	23	240		6	0000	10	1.6%	60
11	37	10.9%	16000	9	274		$\epsilon$	4000	4	0.6%	64
12	62	18.3%	18000	8	309			8000	7	1.1%	68
13	122	36.1%	20000	4	343			2000	4	0.6%	72
14	43	12.7%	22000	0	377			6000	6	0.9%	76
15	17	5.0%	24000	0	412			0000	3	0.5%	80
TOTAL	338		26000	0	446			4000	2	0.3%	84
			>28000	0	0			4000	24	3.8%	>84
0144400	TOT4: 0		TOTAL	1413			ī	OTAL	640		
SUMMARY		CLE EVENTS	680		SORTS BY	ONE CA	TE OUI V		302		
		ICLE EVENTS	238		SORTS BY				338		
		ED EVENTS	153		JUN 13 01	THO GA			550		
L	,121K1DOI	LU LICRIS	1,55								

#### REC CODE EXPLANATION

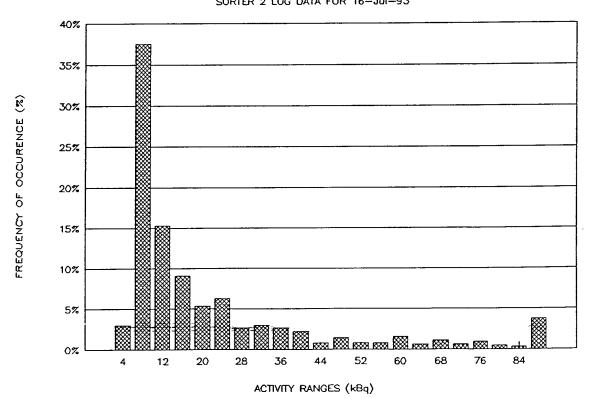
1.00 Source check (Soil on belt)

2.00 Empty belt

SORTER 2 LOG DATA FOR 16-Jul-93



## JA SOIL CLEANUP PLANT HOT PARTICLES SORTER 2 LOG DATA FOR 16-Jul-93



AVERAGE BACKGROUND COUNT RATE	SORTER 1 19-Jul-93							
1.3 tons/m²   1.65	AVERAGE BACKGROUND COUNT RATE	0.74	± 0.05 c	/sec				
MASS TOTAL   MASS TOTAL   MASS TOTAL   MASS TOTAL   MAXIMAN/SORT   MAXIMAN/SOR		1.3	tons/m³					
MASS TOTAL  MAXIMIM/SORT  MINIMM/SORT  MINIMM/SORT  MINIMM/SORT  MINIMM/SORT  MINIMM/SORT  MINIMM/SORT  MINIMM/SORT  MINIMM/SORT  MINIMM/SORT  MORE MAXIMM ESTIMATE)  DISPARSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY  MAXIMM/SORT  MINIMM/SORT  MORE DAY START  MORE DAY END  MORE DA		1.65	tons/m³					
MAXIMUM/SORT  MINIMUM/SORT  MINIMUM/SORT  MINIMUM/SORT  MINIMUM/SORT  MINIMUM/SORT  MINIMUM/SORT  MINIMUM/SORT  MINIMUM/SORT  TOTAL  MAXIMUM/SORT  TOTAL  MAXIMUM/SORT  MINIMUM/SORT  MORE DAY START  MINIMUM/SORT  MORE ACTIVITY  MO			С	ONTAMI	NATED	CLEAN		
MAXIMUM/SORT   0.7 kg   55.2 kg	MASS TOTAL			0.56	tons	66.3	tons	
MINIMUM/SORT 0.7 kg 52.4 kg  WEIGHT RECOVERY OR VOLUME RECOVERY EQUIVALENT SOIL-IN-GROUND 0.44 ydd 52.6 ydd 53.0 ydd'/day  PARTICLE ACTIVITY (MAXIMUM ESTIMATE)  TOTAL 6.544 kBq 299 kBq 279 kBq 5,750 kBq 5,750 kBq 114 kBq 19 kBq 19 kBq 114 kBq 19 kBq 19 kBq 19 kBq 114 kBq 19 kBq 19 kBq 19 kBq 19 kBq 10 kBq 4 kBq 19 kBq 19 kBq 10 kBq 5,750 kBq 11 kBq 19 kBq 10 kBq 19 kBq 10 kBq 68 kBq/kg 10 kBq 19 kBq 10 kBq 10 kBq 0 kBq 0 kBq 0 kBq 0 kBq 0 kBq 10 kBq 18 kBq 0 k				61.1	kg	58.2	kg	
D.44 yd				0.7	kg	52.4	kg	
D.44 yd								
PARTICLE ACTIVITY (MAXIMUM ESTIMATE)   TOTAL	WEIGHT RECOVERY OR VOLUME RECOVERY							99.2%
TOTAL  MAXIMUM/SORT  MINIMUM/SORT  DISPERSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY  ACTIVITY  ACTIVITY  ACTIVITY  2, 285 kBq 5, 750 kBq  141 kBq 19 kBq 0 Bq -4 kBq 0 Bq -4 kBq 0 Bq -4 kBq 0 Bq -6 kBq 87 Bq/kg  WORK HISTORY  WORK DAY START  05:00 AM  PLANT SHATT-UP 05:00 AM PLANT SHATT-UP 05:00 AM PLANT SHATT-UP 05:00 AM PLANT SHATT-UP 05:00 AM PLANT SHATT-UP 05:00 AM PLANT SHATT-UP 05:00 AM PLANT SHATT-UP 05:00 AM PLANT SHATT-UP 05:00 AM PLANT SHATT-UP 05:00 AM PLANT SHATT-UP 05:00 AM PLANT SHATT-UP 05:00 AM PLANT SHATT-UP 05:00 AM PLANT SHATT-UP 05:00 AM PLANT SHATT-UP 05:00 AM PLANT SHATT-UP 05:00 AM PLANT SHATT-UP 05:00 AM PROCESSING 05:55 AM PROCESSING 05:60 PM PROCESSING RECORDS (total 20-sec records) 06.36 hr 06.36 hr 06.36 hr 06.37 hr 10.0 hr 11.49  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC) 1,499  NONPROCESS RECORDS (7est, calibration, etc) 5 20-SEC PROCESS RECORDS 1,149  TOTAL SOIL PROCESSING RECORDS 1,149  TOTAL SORT 06.38 NND=0  TOTAL SORT 10.0 hr 11.49  TOTAL SORT 10.0 hr 10.0				0.44	yd³	52.6	Aq2	53.0 yd³/day
TOTAL  MAXIMUM/SORT  MINIMUM/SORT  DISPERSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY  ACTIVITY  ACTIVITY  ACTIVITY  ACTIVITY  DISPERSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY  ACTIVIT								
MAXIMUM/SORT MINIMUM/SORT DISPERSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY  AXIMUM/SORT MINIMUM/SORT MINIMUM/SORT MINIMUM/SORT MINIMUM/SORT MINIMUM/SORT MINIMUM/SORT MINIMUM/SORT MORK DAY START MORK	PARTICLE ACTIVITY (MAXIMUM ESTIMATE	)						
MINIMUM/SORT   2.9 kBq   5.750 kBq	TOTAL .		1	6,544	kBq			
DISPERSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY  MAXIMUM/SORT  MINIMUM/SORT  SPECIFIC ACTIVITY  WORK DAY START  05:00 AM  WORK DAY START  PLANT START-UP  MORK HOURS  AVAILABLE HOURS  ACTUAL PROCESS HOURS (total 20-sec records)  DON-TIME  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  START-UP  NONAVAILABLE HOURS  ACTUAL PROCESS HOURS  START-UP  NONAVAILABLE HOURS  ACTUAL PROCESS HOURS  START-UP  NONAVAILABLE HOURS  ACTUAL PROCESS HOURS  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  ACTUAL PROCESS HOURS  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  ACTUAL PROCESS HOURS  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  START-UP  O.89 hr  SHUT-DOWN  D.22 hr  PLANT PERFORMANCE  PRODUCTIVITY  63.8%  TOTAL SOLL PROCESSING RECORDS (2-SEC and 20-SEC)  NONPROCESS RECORDS  TOTAL SOLL PROCESSING RECORDS (2-SEC and 20-SEC)  NONSORT  SM BO-0 & MD-0 & MD-0  NO SORT  SM BO-0 & MD-0 & MD-0  LUNEXPLAINE RECORDS  O-AD-CIRCL PROCESS RECORDS  O-CIRCL PROCESS RECORDS  O-CIRC PROCESS RECORDS  O-CIRCL PROCESS RECORDS	MAXIMUM/SORT			299	kBq			
DISPERSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY  MAXIMUM/SORT  MINIMUM/SORT  SPECIFIC ACTIVITY  MORK DAY START  MORK DAY S				2.9	kBq			
MAXIMUM/SORT HINTHUM/SORT SPECIFIC ACTIVITY  WORK DAY START US:00 AM PLANT START-UP UNCK PERIOD UNCK PERIOD UNCK PERIOD UNCK PERIOD UNCK PERIOD UNCH TIME UNCH PERIOD UNCH DAY UNCK PERIOD U	·							
MINIMUM/SORT SPECIFIC ACTIVITY  WORK DAY START	DISPERSED + PARTICLE (REALISTIC EST	IMATE) ACTIVITY	;	2,285	kBq	5,750	kBq	
MINIMUM/SORT SPECIFIC ACTIVITY  WORK HISTORY  WORK DAY START 05:00 AM WORK DAY END 03:30 PM PLANT START-UP 05:00 AM PLANT SNUT-DOWN 03:30 PM START SOIL PROCESSING 05:53 AM END SOIL PROCESSING 05:55 AM END SOIL PROCESSING 05:55 AM LUNCH PERIOD 0.5 hr  WORK HOURS 11:30 AM LUNCH PERIOD 0.5 hr  WORK HOURS 10:00 hr AVAILABLE HOURS 10:00 hr ACTUAL PROCESS HOURS (total 20-sec records) 6.38 hr DOWN-TIME 3.62 hr NONAVAILABLE HOURS 0.00 hr START-UP 3.63 hr SITART-UP 0.89 hr SHUT-DOWN 0.22 hr PRODUCTIVITY 63.8%  TOTAL SOIL PROCESSING RECORDS (2-sec and 20-sec) 1,499  NONPROCESS RECORDS (7-set, calibration, etc) 5.5  20-sec PROCESS RECORDS 1,499  NONPROCESS RECORDS (2-sec and 20-sec) 1,499  NONPROCE	MAXIMUM/SORT			141	kBq	19	k8q	
VORK HISTORY				0	Bq	-4	kBq	*
WORK HISTORY  WORK DAY START 05:00 AM WORK DAY END 03:30 PM PLANT START-UP 05:00 AM PLANT SHUT-DOWN 03:30 PM START SOIL PROCESSING 05:53 AM END SOIL PROCESSING 03:16 PM LUNCH START 11:30 AM LUNCH PERIOO 0.5 hr  WORK HOURS AVAILABLE HOURS ACTUAL PROCESS HOURS (total 20-sec records) 6.38 hr DOWN-TIME 3.62 hr TOTAL SYSTEM PAUSE 3.03 hr NONAWAILABLE HOURS START-UP 0.89 hr SHUT-DOWN 0.22 hr PLANT PERFORMANCE 63.8% PRODUCTIVITY 63.8%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC) 1,499 NONPROCESS RECORDS (Test, calibration, etc) 5 20-SEC PROCESS RECORDS 11,499 NON SORT 884 AD=0 & MND=0 SOME SORT 262 AD>080 MND=0 & MND>0 SOME SOME SOME SOME SOME ON MND=0 SOME SORT 262 AD>080 MND=0 & MND>0 SOME SOME SOME SOME ON MND=0 SOME SORT 262 AD>080 MND=0 & MND>0 TIME TIME TIME AD=0 & MD 0 0 TIME TIME TIME TIME AD=0 & MD 0 0 TIME TIME TIME TIME AD=0 & MD 0 0 TIME				4,086	Bq/kg	87	Bq/kg	
WORK DAY START   05:00 AM								
PLANT START-UP 05:00 AM PLANT SHUT-DOWN 03:30 PM START SOIL PROCESSING 05:53 AM END SOIL PROCESSING 03:16 PM LUNCH START 11:30 AM LUNCH PERIOD 0.5 hr    MORK HOURS	WORK HISTORY							
START SOIL PROCESSING   05:53 AM   END SOIL PROCESSING   03:16 PM	WORK DAY START	05:00 AM	u	ORK DA	Y END	03:30 PM		
LUNCH START   11:30 AM	PLANT START-UP	05:00 AM	P	LANT S	HUT-DOWN	03:30 PM		
WORK HOURS		05:53 AM	Ε	ND SOI	L PROCESSING	03:16 PM		
AVAILABLE HOURS  ACTUAL PROCESS HOURS (total 20-sec records)  ACTUAL PROCESS HOURS (total 20-sec records)  DOWN-TIME  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  O.0 hr  START-UP  SHUT-DOWN  PLANT PERFORMANCE  PRODUCTIVITY  O.89 hr  O.22 hr  PLANT PERFORMANCE  FROQUETIVITY  O.89 hr  O.22 hr  PLANT PERFORMANCE  FROQUETIVITY  O.89 hr  O.22 hr  PLANT PERFORMANCE  O.89 hr  O.20 hr  O.20 hr  O.21 hr  O.22 hr  O.22 hr  O.22 hr  O.24 hr  O.25 hr  O.26 AD-00 & MD=0  AD-0 & MD=0  AD-0 & MD  O  TIME  TIME  AD-0 & MD  O  O7:34:29  O7:3	LUNCH START	11:30 AM	L	UNCH P	ER100	0.5	hr	
AVAILABLE HOURS  ACTUAL PROCESS HOURS (total 20-sec records)  ACTUAL PROCESS HOURS (total 20-sec records)  DOWN-TIME  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  O.0 hr  START-UP  SHUT-DOWN  PLANT PERFORMANCE  PRODUCTIVITY  O.89 hr  O.22 hr  PLANT PERFORMANCE  FROQUETIVITY  O.89 hr  O.22 hr  PLANT PERFORMANCE  FROQUETIVITY  O.89 hr  O.22 hr  PLANT PERFORMANCE  O.89 hr  O.20 hr  O.20 hr  O.21 hr  O.22 hr  O.22 hr  O.22 hr  O.24 hr  O.25 hr  O.26 AD-00 & MD=0  AD-0 & MD=0  AD-0 & MD  O  TIME  TIME  AD-0 & MD  O  O7:34:29  O7:3								
ACTUAL PROCESS HOURS (total 20-sec records)  DOWN-TIME  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  START-UP  SHUT-DOWN  PLANT PERFORMANCE  PRODUCTIVITY  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  NONPROCESS RECORDS  20-SEC PROCESS RECORDS  1,499  NONPROCESS RECORDS  1,149  TOTAL SORT  NO SORT  SOME SORT  UNEXPLAINED RECORDS  0 < AD<1 kBq & MD>0  TIME  AD=0 & MD 0  0 < 33.8%  6.38 hr  3.62 hr  3.03 hr  3.02 hr  4.89 hr  5.8%  1,499  1,499  1,499  1,499  1,499  1,499  1,499  1,149  20-SEC PROCESS RECORDS  1,149  3 MD>0 & MND=0  884 AD=0 & MD=0  484 AD=0 & MD=0  485 AD=0 & MD=0  486 AD=0 & MD=0  487 AD=0 & MD=0  488 AD=0 & MD=0  489 AD=0 & MD=0  488 AD=0 & MD=	WORK HOURS				10.0 hr			
DOUN-TIME   3.62 hr   TOTAL SYSTEM PAUSE   3.03 hr   NONAVAILABLE HOURS   0.0 hr   START-UP   0.89 hr   SHUT-DOWN   0.22 hr   PLANT PERFORMANCE   63.8%   FRODUCTIVITY   63.8%   Consideration, etc)   5   Consideration, etc)   63.8%   Considera	AVAILABLE HOURS				10.0 hr			
TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  START-UP  SHUT-DOWN  PLANT PERFORMANCE  PRODUCTIVITY  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  NONPROCESS RECORDS (7est, calibration, etc)  20-SEC PROCESS RECORDS  1,149  TOTAL SORT  NO SORT  SOME SORT  UNEXPLAINED RECORDS  0 <ad<1kbq &="" md="">0 1  AD=0 &amp; MD 0  TIME  TIME  AD=0 &amp; MD 0  TIME  TIME  TIME  AD=0 &amp; MD 0  TIME  AD=0 &amp; MD 0  TIME  TIME  TIME  AD=0 &amp; MD 0  09:34:29 06:54</ad<1kbq>	ACTUAL PROCESS HOUR	S (total 20-sec red	cords)		6.38 hr			
NONAVAILABLE HOURS   0.0 hr	DOWN-TIME				3.62 hr			
START-UP   0.89 hr   0.22 hr   0.2	TOTAL SYSTEM PAUSE				3.03 hr			
SHUT-DOWN PLANT PERFORMANCE PRODUCTIVITY 63.8%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC) NONPROCESS RECORDS (Test, calibration, etc) 20-SEC PROCESS RECORDS 1,149  TOTAL SORT 3 MD>0 & MND=0  NO SORT 884 AD=0 & MD=0 & MND>0  SOME SORT UNEXPLAINED RECORDS 0 <ad<1kbq &="" md="">0 1  AD=0 &amp; MD 0  UNEXPLAIN PAUSE AD=0 &amp; MD 0  TIME TIME TIME AD&lt;0 &amp; MD 0 09:34:29 06:54</ad<1kbq>	NONAVAILABLE HOURS				0.0 hr			
PLANT PERFORMANCE PRODUCTIVITY  63.8%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  NONPROCESS RECORDS (Test, calibration, etc)  20-SEC PROCESS RECORDS  1,149  TOTAL SORT  NO SORT  SOME SORT  UNEXPLAINED RECORDS  0 < AD < 1 kBq & MD > 0	START-UP				0.89 hr			
PRODUCTIVITY 63.8%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC) 1,499  NONPROCESS RECORDS (Test, calibration, etc) 5  20-SEC PROCESS RECORDS 1,149  TOTAL SORT 3 MD>0 & MND=0  NO SORT 884 AD=0 & MD=0 & MND>0  SOME SORT 262 AD>0&0         884 AD=0 & MD=0 & MND>0   NO SORT 262 AD>0&0   NO SORT 262 AD>0	SHUT-DOWN				0.22 hr			
TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  NONPROCESS RECORDS (Test, calibration, etc)  20-SEC PROCESS RECORDS  TOTAL SORT  NO SORT  SOME SORT  UNEXPLAINED RECORDS  0 < AD < 1 kBq & MD > 0  AD < 0 & MD  TIME  TOTAL SORT  AD < 0 & MD  0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PLANT PERFORMANCE				63.8%			
NONPROCESS RECORDS   1,149	PRODUCTIVITY				63.8%			
NONPROCESS RECORDS   1,149								
20-SEC PROCESS RECORDS  TOTAL SORT  NO SORT  SOME SORT  UNEXPLAINED RECORDS  0 < AD < 1 kBq & MD > 0  AD = 0 & MD  UNEXPLAIN  UNEXPLAIN  AD = 0 & MD  UNEXPLAIN  UNEXPLAIN  AD = 0 & MD  UNEXPLAIN  UNEXPLAIN  O 9:34:29  O 6:54	TOTAL SOIL PROCESSING RECORDS (2-SE	c and 20-SEC)			1,499			
TOTAL SORT 3 MD>0 & MND=0  NO SORT 884 AD=0 & MD=0 & MND>0  SOME SORT 262 AD>0&0         SOME SORT 262 AD>0&0         WNDMDMAX&MND < MNDMAX	NONPROCESS RECORDS (Test, calibrati	on, etc)			5			
NO SORT	20-SEC PROCESS RECORDS		•	1,149				
SOME SORT 262 AD>0&0 <md<mndmax&mnd<mndmax &="" 0="" md="" o<ad<1kbq="" records="" unexplained="">0 1 UNEXPLAIN PAUSE  AD=0 &amp; MD 0 TIME TIME  AD&lt;0 &amp; MD 0 09:34:29 06:54</md<mndmax&mnd<mndmax>	TOTAL SORT			3	MD>0 & MND=0			
UNEXPLAINED RECORDS  0 < AD < 1 kBq & MD > 0	NO SORT			884	& 0=0M & 0=DA	MND>0		
0 <ad<1kbq &="" md="">0 1 UNEXPLAIN PAUSE  AD=0 &amp; MD 0 TIME TIME  AD&lt;0 &amp; MD 0 09:34:29 06:54</ad<1kbq>	SOME SORT			262	GUM>GM>0&0 <ga< td=""><td>M≯GMM&amp;xsm</td><td>lDmax</td><td></td></ga<>	M≯GMM&xsm	lDmax	
AD=0 & MD 0 TIME TIME AD<0 & MD 0 09:34:29 06:54	UNEXPLAINED RECORDS			0				
AD<0 & MD 0 09:34:29 06:54	0 <ad<1kbq &="" md="">0</ad<1kbq>	1				UNEXPLAIN	l F	PAUSE
AD<0 & MD 0 09:34:29 06:54	AD=0 & M	0				TIME		TIME
ACT_P <5 kBq 62 17.7% 12:28:50 11:21	AD<0 & M	0				09:34:29		06:54
	ACT_P <5 kBq	62 17.7%				12:28:50		11:21

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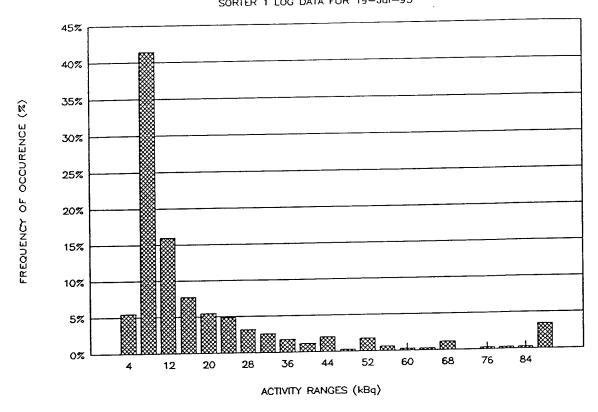
	2-SEC (0)	UNT PERIODS				11,490						12:49
	2-320 00	2-SEC RECORE	S HIIU S	ORTS			(ACT P	>0 kBq)				
		2-SEC RECORD			IN >1 DE		• -	,				
			DETECTO		84		86.6%					
			DETECTO		12		12.4%					
			DETECTO		1		1.0%					
			DETECTO		0		0.0%					
			DETECTO		0		0.0%					
			DETECTO		0		0.0%					
			DETECTO		0		0.0%					
			TOTAL		·	97						
		NET 2-SEC RE		21902 HT		253						
		2-SEC PERIOD				11,237						
		AVG TIME BET				90.8	sec					
		AAG LIME DE	WCLN 2 3	CC JONTO		,,,,						
1-GATE	SORTS	177	ACT_ND	NUMBER	SPEC_A			ACT_P	SORT	FREQ%	ACT_P	
DETECT		FREQ%	(Bq)		(Bq/kg)			(Bq)	(#)		(kBq)	
1	4	2.3%	-14000	0	-241			4000	19	5.4%	4	
2	11	6.2%	-12000	0	-206	-		8000	145	41.4%	8	
3	26	14.7%	-10000	1	-172			12000	56	16.0%	12	
4	35	19.8%	-8000	0	-137			16000	27	7.7%	16	
5	44	24.9%	-6000	3	-103		;	20000	19	5.4%	20	
6	25	14.1%	-4000	2	-69			24000	17	4.9%	24	
7	25	14.1%	-2000	7	-34		:	28000	11	3.1%	28	
8	. 7	4.0%	0	48	0		:	32000	9	2.6%	32	
TOTAL	177		2000	142	34			36000	6	1.7%	36	
			4000	250	69			40000	4	1.1%	40	
2-GATE	SORTS	173	6000	291	103			44000	7	2.0%	44	
DETECT	R SORTS	FREQ%	8000	219	137			48000	1	0.3%	48	
8			10000	130	172			52000	6	1.7%	52	
9	5	2.9%	12000	40	206			56000	2	0.6%	56	
10	22	12.7%	14000	16	241			60000	1	0.3%	60	
11	28	16.2%	16000	2	275			64000	1	0.3%	64	
12	43	24.9%	18000	2	309			00083	4	1.1%	68	
13	35	20.2%	20000	1	344			72000	0	0.0%	72	
14	25	14.5%	22000	0	378			76000	1	0.3%	76	
15	15	8.7%	24000	0	412			80000	1	0.3%	80	
TOTAL	173		26000	0	447			84000	1	0.3%	84	
			>28000	0	0			84000	12	3.4%	>84	
			TOTAL	1154			•	TOTAL	350			
SUMMAR	Y TOTALS											
	HOT PART	ICLE EVENTS	352		SORTS BY	ONE G	TE ONL	Y	177			
	MULTIPAR	TICLE EVENTS	169		SORTS BY	TWO G	ATES		173			
	DISTRIBU	TED EVENTS	245									

### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

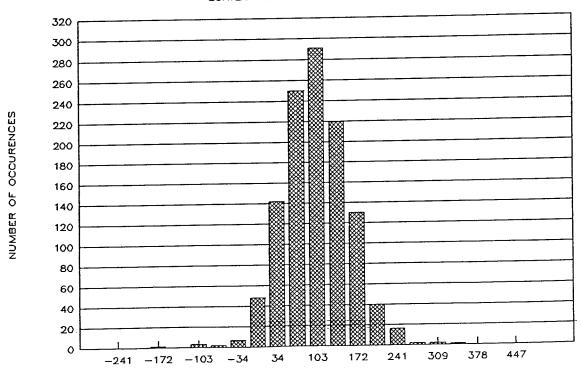
2.00 Empty belt

# JA SOIL CLEANUP PLANT HOT PARTICLES SORTER 1 LOG DATA FOR 19-Jul-93



### CLEAN SOIL SPECIFIC ACTIVITY

SORTER 1 LOG DATA FOR 19-Jul-93



SORTER 2 19-Jul-	93						
AVERAGE BACKGROUND COUNT	RATE	0.79	± 0.0	3 c/sec			
SORTER SOIL DENSITY	NATE .	1.3	tons/m³				
GROUND SOIL DENSITY		1.65	tons/m³				
GROOMD SOIL DEMOTT.				CONTAMINATED	CLEAN		
MASS TOTAL				0.50 tons	66.7	tons	
MAXIMUM/SORT				61.3 kg	58.3	kg	
MINIMUM/SORT				0.7 kg	53.2	kg	
WEIGHT RECOVERY OR VOLUM	E RECOVERY						99.3%
EQUIVALENT SOIL-IN-GROUN				0.40 yd <sup>3</sup>	52.8	yd3	53.2 yd3/day
PARTICLE ACTIVITY (MAXIM	UM ESTIMATE)						
TOTAL				6,836 kBq			
MAXIMUM/SORT				556 kBq			
MINIMUM/SORT				3.0 kBq			
				2 (57 60-	2,792	kBa	
DISPERSED + PARTICLE (RE	ALISTIC ESTIMATE) ACTIV	ITY		2,457 kBq	-	kBq	
MAXIMUM/SORT				392 kBq		kBq	
MINIMUM/SORT				-218 Bq 4,927 Bq/kg		Bq/kg	
SPECIFIC ACTIVITY				4,721 by/kg	,-	- <del>-</del>	
WORK HISTORY							
WORK HISTORY WORK DAY START	05:00 AM			WORK DAY END	03:30 PM		
PLANT START-UP	05:00 AM			PLANT SHUT-DOWN	03:30 PM		
START SOIL PROCES				END SOIL PROCESSING	03:17 PM		
LUNCH START	11:30 AM			LUNCH PERIOD	0.5	hr	
				40.01			
WORK HOU	RS			10.0 hr 10.0 hr			
AVAILABL				6.40 hr			
	ROCESS HOURS (total 20-	sec re	cords)	3.60 hr			
DOWN-TIM				3.03 hr			
	STEM PAUSE			0.0 hr			
	ABLE HOURS			0.89 hr			
START-UF				0.20 hr			
SHUT-DOV				64.0%			
	RFORMANCE			64.0%			
PRODUCTI	ATIL						
TOTAL SOIL PROCESSING RE	CORDS (2-SEC and 20-SEC	)		1,489			
NONPROCESS RECORDS (Test				2			
20-SEC PROCESS RE				1,152			
TOTAL SO				2 MD>0 & MND=0			
NO SORT				901 AD=0 & MD=0			
SOME SOI	RT			249 AD>0&0 <md<mn< td=""><td>Dmax&amp;MND<m< td=""><td>NDmax</td><td></td></m<></td></md<mn<>	Dmax&MND <m< td=""><td>NDmax</td><td></td></m<>	NDmax	
UNEXPLA	NED RECORDS			0			DALICE
0 <ad<1k1< td=""><td>3q &amp; MD&gt;0</td><td></td><td></td><td></td><td>UNEXPLAI</td><td>N I</td><td>PAUSE</td></ad<1k1<>	3q & MD>0				UNEXPLAI	N I	PAUSE
	AD=0 & MD 0				TIME		TIME 06:54
	AD<0 & MD 1				12:28:50		11:21
ACT_P <	5 kBq 46	13.6%	4		14:38:11		11.61

File SZJA0719.WR1

1

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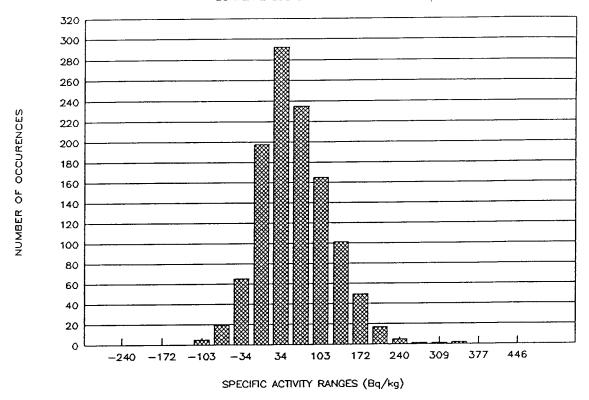
2	2-SEC COL	JNT PERIODS				11,520						12:49
		2-SEC RECORD	S WITH S	ORTS			(ACT_P	>0 kBq)	ķ			
		2-SEC RECORD			IN >1 D		_	·				
		2	2 DETECTO	RS	79		88.8%					
		3	DETECTO	RS	10		11.2%					
		4	DETECTO	RS	0		0.0%					
		9	DETECTO	RS	0		0.0%					
		6	DETECTO	RS	0		0.0%					
		7	DETECTO	RS	0		0.0%					
		8	DETECTO	RS	0		0.0%					
		1	TOTAL			89						
		NET 2-SEC RE	CORDS WI	TH SORTS		248						
		2-SEC PERIOD	S WITH N	O SORTS		11,272						
		AVG TIME BET	WEEN 2-S	EC SORTS		92.9	sec					
1 0475 6	20246	177	ACT NO		CDEC 4			CT D	CODT	EDEOY	ACT_P	
1-GATE S		173	ACT_ND		SPEC_A			CT_P		FREQ%	_	
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)			(Bq)	(#)		(kBq)	
1	10	5.8%	-14000	0	-240			4000	15	4.5%	4	
2	31	17.9%	-12000	0	-206		;	8000	147	43.6%	8	
3	28	16.2%	-10000	0	-172		1.	2000	62	18.4%	12	
4	30	17.3%	-8000	0	-137		10	5000	31	9.2%	16	
5	31	17.9%	-6000	5	-103		2	0000	10	3.0%	20	
6	23	13.3%	-4000	19	-69		24	4000	11	3.3%	24	
7	18	10.4%	-2000	65	-34		28	3000	11	3.3%	28	
8	2	1.2%	0	197	0		33	2000	4	1.2%	32	
TOTAL	173		2000	292	34		36	5000	7	2.1%	36	
			4000	235	69		40	0000	3	0.9%	40	
2-GATE S	ORTS	164	6000	165	103		44	000	3	0.9%	44	
DETECTR	SORTS	FREQ%	8000	101	137		48	3000	1	0.3%	48	
8			10000	49	172		57	2000	3	0.9%	52	
9	21	12.8%	12000	17	206			5000	4	1.2%	56	
10	27	16.5%	14000	5	240			0000	2	0.6%	60	
11	27	16.5%	16000	1	274			000	0	0.0%	64	
12	28	17.1%	18000	1	309			3000	3	0.9%	68	
13	29	17.7%	20000	2	343			2000	4	1.2%	72	
14	23	14.0%	22000	0	377			0000	1	0.3%	76	
15	9	5.5%	24000	0	412			0000	1	0.3%	80	
TOTAL	164		26000	0	446			000	2	0.6%	84	
			>28000	0	0			000	12	3.6%	>84	
			TOTAL	1154			TC	TAL	337			
SUMMARY			= 4.5			<b>.</b>						
		CLE EVENTS	342		SORTS BY				173			
		ICLE EVENTS	174		SORTS BY	IWO GA	(IES		164			
D	121K1R01	ED EVENTS	168									

#### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

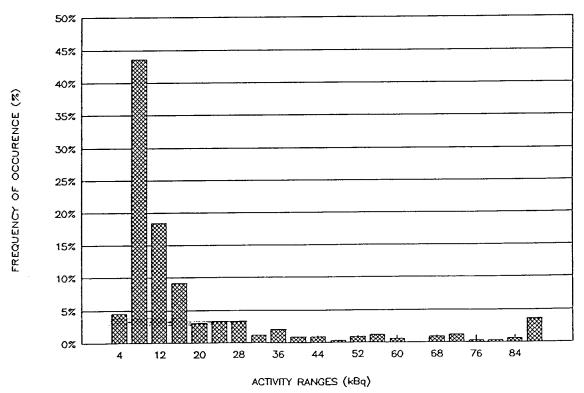
2.00 Empty belt

SORTER 2 LOG DATA FOR 19-Jul-93



### JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 2 LOG DATA FOR 19-Jul-93



SORTER 1 20-Jul-93						
AVERAGE BACKGROUND COUNT RATE		0.73 ± 0.	.04 c/sec			
SORTER SOIL DENSITY		1.3 tons/m³				
GROUND SOIL DENSITY		1.65 tons/m³				
			CONTAMINATED	CLEAN		
MASS TOTAL			0.36 tons	80.2	tons	
MAXIMUM/SORT			61.1 kg	58.2	kg	
MINIMUM/SORT			0.7 kg	53.9	kg	
WEIGHT RECOVERY OR VOLUME RECOVER	Υ					99.5%
EQUIVALENT SOIL-IN-GROUND			0.29 yd <sup>3</sup>	63.6	yd3	63.9 yd <sup>3</sup> /day
PARTICLE ACTIVITY (MAXIMUM ESTIMA	ITE)					
TOTAL			7,012 kBq			
MAXIMUM/SORT			646 kBq			
MINIMUM/SORT			2.9 kBq			
DISPERSED + PARTICLE (REALISTIC E	STIMATE) ACTIV	ITY	2,391 kBq	6,049	kBq	
MAXIMUM/SORT			385 kBq	17	kBq	
MINIMUM/SORT			0 Bq	-11	kBq	
SPECIFIC ACTIVITY			6,576 Bq/kg	75	Bq/kg	
WORK HISTORY						
WORK DAY START	05:00 AM		WORK DAY END	03:30 PM		
PLANT START-UP	05:00 AM		PLANT SHUT-DOWN	03:30 PM		
START SOIL PROCESSING	05:43 AM		END SOIL PROCESSING	03:06 PM		
LUNCH START	11:30 AM		LUNCH PERIOD	0.5	hr	
WORK HOURS			10.0 hr			
AVAILABLE HOURS			10.0 hr			
ACTUAL PROCESS HO	URS (total 20-	sec records)	7.69 hr			
DOWN-TIME			2.31 hr			
TOTAL SYSTEM PAUS	Έ		1.73 hr			
NONAVAILABLE HOUR	s		0.0 hr			
START-UP			0.72 hr			
SHUT-DOWN			0.38 hr			
PLANT PERFORMANCE			76.9%			
PRODUCTIVITY			76.9%			
TOTAL SOIL PROCESSING RECORDS (2-	SEC and 20-SEC	)	1,666			
NONPROCESS RECORDS (Test, calibra			3			
20-SEC PROCESS RECORDS			1,384			
TOTAL SORT			1 MD>0 & MND=0			
NO SORT			1,177 AD=0 & MD=0 &	MND>0		
SOME SORT			206 AD>0&0 <md<mnd< td=""><td>max&amp;MND<mn< td=""><td>Dmax</td><td></td></mn<></td></md<mnd<>	max&MND <mn< td=""><td>Dmax</td><td></td></mn<>	Dmax	
UNEXPLAINED RECOR	DS		0			
0 <ad<1kbq &="" md="">0</ad<1kbq>	1			UNEXPLAIN	PA	USE
AD=0 &	MD 1			TIME	r	IME
AD<0 8				08:06:43	0	6:24
ACT P <5 kBq	51	18.1%		12:21:35	0	9:09

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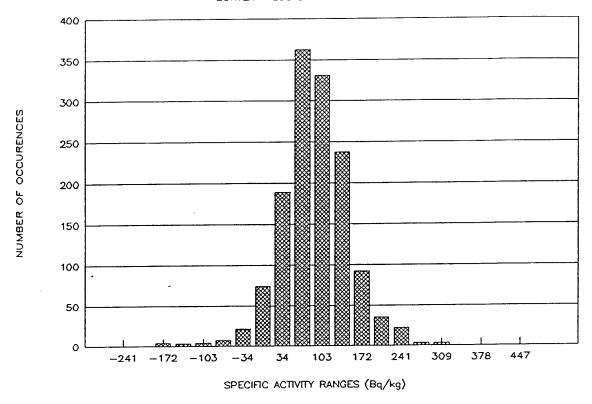
	3-SEC CO	INT PERIODS				13,840						11:02
		2-SEC RECORD	S HITH SO	DRTS.			(ACT P	>0 kBq)				
		2-SEC RECORD			IN >1 DE							
			DETECTOR		63		88.7%					
			DETECTOR		8		11.3%					
			DETECTOR		0		0.0%					
			DETECTOR		0		0.0%					
			DETECTOR		0		0.0%					
			DETECTOR		0		0.0%					
			DETECTOR		0		0.0%					
			OTAL			71						
		NET 2-SEC RE		TH SORTS		211						
		2-SEC PERIOD				13,629						
		AVG TIME BET				131.2	sec					
		Ard Time out										
1-GATE	SUBTS	139	ACT_ND	NUMBER	SPEC_A			ACT_P	SORT	FREQ%	ACT_P	
DETECT		FREQ%	(Bq)		(Bq/kg)			(Bq)	(#)		(kBq)	
DETECT	30113	***************************************	15-7/	, ,								
1	2	1.4%	-14000	0	-241			4000	12	4.3%	4	
2		5.8%	-12000	0	-206			8000	110	39.0%	8	
3		12.2%	-10000	4	-172			12000	47	16.7%	12	
4	24	17.3%	-8000	3	-137			16000	. 27	9.6%	16	
5	38	27.3%	-6000	4	-103			20000	19	6.7%	20	
6	22	15.8%	-4000	7	-69			24000	8	2.8%	24	
7	19	13.7%	-2000	21	-34			28000	7	2.5%	28	
8	9	6.5%	0	74	0			32000	8	2.8%	32	
TOTAL	139		2000	189	34			36000	6	2.1%	36	
			4000	362	69			40000	3	1.1%	40	
2-GATE	SORTS	143	6000	331	103			44000	7	2.5%	44	
DETECT		FREQ%	8000	237	137			48000	3	1.1%	48	
8			10000	92	172			52000	2	0.7%	52	
9	4	2.8%	12000	35	206			56000	4	1.4%	56	
10	9	6.3%	14000	22	241			60000	0	0.0%	60	
11	23	16.1%	16000	3	275			64000	2	0.7%	64	
12	38	26.6%	18000	3	309			68000	2		68	
13	30	21.0%	20000	0	344			72000	1		72	
14	22	15.4%	22000	0	378			76000	2	0.7%	76	
15	17	11.9%	24000	0	412			80000	0	0.0%	80	
TOTAL	143		26000	0	447			84000	0	0.0%	84	
			>28000	0	0		;	<b>84000</b>	12		>84	
			TOTAL	1387				TOTAL	282			
SUMMAR'	Y TOTALS											
	HOT PART	ICLE EVENTS	282		SORTS BY	ONE G	ATE ON	LY	139			
	MULTIPAR	TICLE EVENTS	133		SORTS BY	r two g	ATES		143			
	DISTRIBU	TED EVENTS	83									

### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

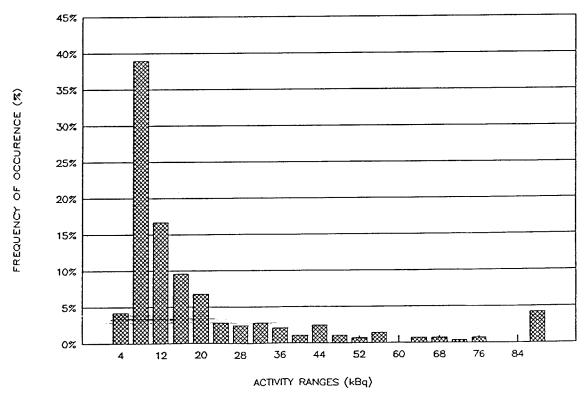
2.00 Empty belt

SORTER 1 LOG DATA FOR 20-Jul-93



### JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 1 LOG DATA FOR 20-Jul-93



SORTER 2	20-Jul-93									
AVERAGE BACKGROUN	IN COUNT RATE		0.79	±	0.03	c/sec				
SORTER SOIL DENSI			1.3	tons/m	3					
GROUND SOIL DENSI			1.65	tons/m	3					
GROOMD SOLE DEMS.	•					CONTAM	INATED	CLEAN		
MASS TOTAL						0.49	tons	79.0	tons	
MAXIMUM/SO	ORT					61.3	kg	58.3	kg	
MINIMUM/SO						0.7	kg	53.2	kg	
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,										
WEIGHT RECOVERY O	R VOLUME RECOVERY									99.4%
EQUIVALENT SOIL-I						0.39	λq <sub>2</sub>	62.6	yd3	63.0 yd <sup>3</sup> /day
PARTICLE ACTIVITY	(MAXIMUM ESTIMATE	)								
TOTAL						7,655				
MAXIMUM/SC	ORT					1,032				
MINIMUM/SC	ORT					3.3	kBq			
							10	2 242	kRc.	
DISPERSED + PARTI	CLE (REALISTIC EST	IMATE) ACTIV	/ITY			2,659		2,262	kBq	
MAXIMUM/SC	DRT						kBq		kBq	
MINIMUM/SC	ORT					-1433	•		Bq/kg	
SPECIFIC A	CTIVITY					5,375	Bq/kg		D4) 43	
WORK HISTORY		05:00 AM				WORK D	AY FND	03:30 PM		
WORK DAY S		05:00 AM					SHUT-DOWN	03:30 PM		
PLANT STAF		05:43 AM					IL PROCESSING	03:03 PM		
-	PROCESSING	11:30 AM				LUNCH		0.5	hr	
LUNCH STAF	(I	11250 741								
,	IORK HOURS						10.0 hr			
	AVAILABLE HOURS						10.0 hr			
	ACTUAL PROCESS HOUR	S (total 20-	-sec re	ecords)			7.58 hr			
ι	OOWN-TIME						2.42 hr			
1	TOTAL SYSTEM PAUSE						1.80 hr			
1	NONAVAILABLE HOURS						0.0 hr			
•	START-UP						0.72 hr			
:	SHUT-DOWN						0.44 hr			
ŧ	PLANT PERFORMANCE						75.8%			
1	PRODUCTIVITY						75.8%			
							1 707			
	SSING RECORDS (2-SE		C)				1,707 13			
	OS (Test, calibrati	ion, etc)				1,364				
	OCESS RECORDS					-	MD>0 & MND=0			
	TOTAL SORT						AD=0 & MD=0	O <dam 3<="" td=""><td></td><td></td></dam>		
	NO SORT						MM>DM>0&0 <da< td=""><td></td><td>NDmax</td><td></td></da<>		NDmax	
	SOME SORT					247				
	UNEXPLAINED RECORDS					·	•	UNEXPLAI	N	PAUSE
	0 <ad<1kbq &="" md="">0</ad<1kbq>	2 4D 1						TIME		TIME
	AD=0 & 1							08:09:44		06:24
	AD<0 & I	42	12.2	<b>Y</b>				10:54:14		09:09
•	ACT_P <5 kBq	44	16.6	~						

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1

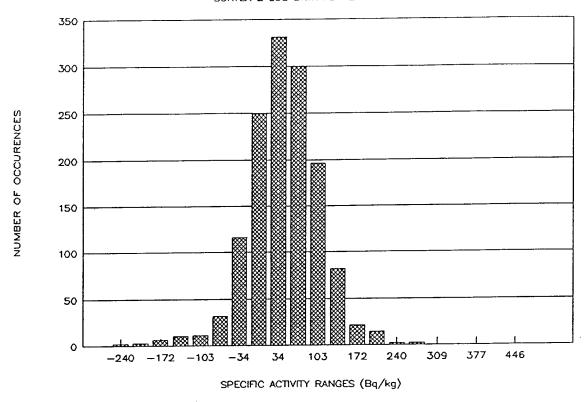
	2-SEC COL	JNT PERIODS				13,640	ı				2:21:36	10:50
		2-SEC RECORD	S WITH S	ORTS		343	(ACT_P	>0 kBq)		14	4:10:56	10:54
		2-SEC RECORD			IN >1 DE	TECTOR						11:02
			DETECTO		80		83.3%					
			DETECTO		15		15.6%					
			DETECTO		1		1.0%					
			DETECTO		0		0.0%					
			DETECTO		0		0.0%					
			DETECTO		0		0.0%					
					0		0.0%					
	8 DETECTORS TOTAL					96						
		NET 2-SEC RE		TH SORTS		247						
		2-SEC PERIOD				13,393						
		AVG TIME BET				110.4						
		AVG TIME BET	WEEN Z-3	EC SORIS		110.4	300					
1 0475	CORTC	178	ACT_ND	NUMBER	SPEC_A			ACT_P	SORT	FREQ%	ACT_P	
1-GATE		FREQ%	(PB)		(Bq/kg)			(Bq)	(#)		(kBq)	
DETECT	R SORTS	FREGA	(bq)	(")	(64,497			<b>1</b> -4,			•	
•	12	6.7%	-14000	2	-240			4000	10	2.9%	4	
1		14.6%	-12000	3				8000	140	40.8%	8	
2		11.8%		6	-172			12000	64	18.7%	12	
3			-8000	10		•		16000	38	11.1%	16	
4	29	16.3% 21.9%	-6000	11	-103			20000	15	4.4%	20	
5			-4000	31	-69			24000	14	4.1%	24	
6		19.7%		116	-34			28000	10	2.9%	28	
7		7.3%	-2000	249	- 54			32000	6	1.7%	32	
8		1.7%	2000	331	34			36000	5	1.5%	36	
TOTAL	178		2000		69			40000	2	0.6%	40	
		4/5	4000	300				44000	4	1.2%	44	
2-GATE		165	6000	197	137			48000	3	0.9%	48	
DETECT		FREQ%	8000	82				52000	4	1.2%	52	
8		40.44	10000	21	172			56000	3	0.9%	56	
9		12.1%	12000	14	206			60000	4	1.2%	60	
10		12.1%	14000	2	240				5	1.5%	64	
11		12.1%	16000	2	274			64000	3	0.9%	68	
12		20.0%	18000	0	309			68000	0	0.0%	72	
13		24.2%	20000	0	343			72000	0	0.0%	76	
14		13.3%	22000	0	377			76000	_	0.6%	80	
15				0	412			80000	2	0.3%	84	
TOTAL	165		26000	0	446			84000	1		>84	
			>28000	0				84000	10	2.9%	704	
			TOTAL	1377				TOTAL	343			
SUMMAR	Y TOTALS						4 TE A."	v	170			
		ICLE EVENTS	332		SORTS BY			.1	178			
		TICLE EVENTS	178		SORTS BY	IWO G	AIES		165			
	DISTRIBU	TED EVENTS	168									

### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

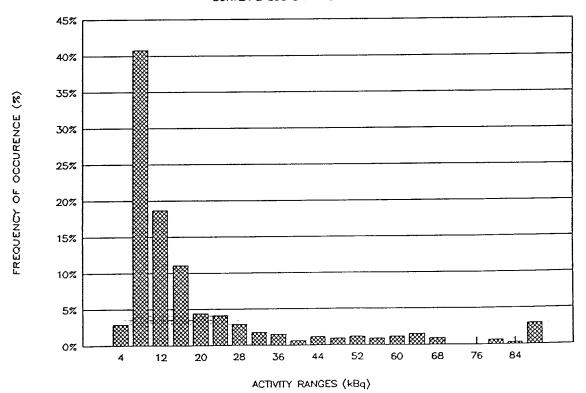
2.00 Empty belt

SORTER 2 LOG DATA FOR 20-Jul-93



### JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 2 LOG DATA FOR 20-Jul-93



SORTER 1 21-Jul-93				
SOUTH TO SEE SEE				
AVERAGE BACKGROUND COUNT RATE	****	0.04 c/sec		
SORTER SOIL DENSITY	1.3 tons/m			
GROUND SOIL DENSITY	1.65 tons/m		CLEAN	
		CONTAMINATED  0.63 tons	83.7 tor	ne
MASS TOTAL		61.1 kg	58.2 kg	15
MAXIMUM/SORT		0.7 kg	51.7 kg	
MINIMUM/SORT		0.1 kg	311. (3	
WEIGHT RECOVERY OR VOLUME RECOVE	ERY			99.3%
EQUIVALENT SOIL-IN-GROUND		0.50 yd3	66.4 yd³	66.9 yd <sup>3</sup> /day
		·		
PARTICLE ACTIVITY (MAXIMUM ESTIN	MATE)			
TOTAL		15,098 kBq		
MAXIMUM/SORT		3,577 kBq		
MINIMUM/SORT		2.4 kBq		
- ·				
DISPERSED + PARTICLE (REALISTIC	ESTIMATE) ACTIVITY	5,152 kBq	3,603 kBc	1
MAXIMUM/SORT		2080 kBq	21 kBc	I
MINIMUM/SORT		0 Bq	-7 kBc	1
SPECIFIC ACTIVITY		8,213 Bq/kg	43 Bq/	'kg
WORK HISTORY				
WORK DAY START	05:00 AM	WORK DAY END	03:30 PM	
PLANT START-UP	05:00 AM	PLANT SHUT-DOWN	03:30 PM	
START SOIL PROCESSING	05:24 AM	END SOIL PROCESSING		
LUNCH START	11:30 AM	LUNCH PERIOD	0.5 hr	
WORK HOURS		10.0 hr		
AVAILABLE HOURS		10.0 hr		
	HOURS (total 20-sec records)	8.05 hr		
DOWN-TIME	100/10 (10/10/ 20 200 / 200/ 20)	1.95 hr		
TOTAL SYSTEM PAU	JSF	1.60 hr		
NONAVAILABLE HOU		0.0 hr		
START-UP		0.41 hr		
SKUT-DOWN		0.43 hr		
PLANT PERFORMANC	DE .	80.5%		
PRODUCTIVITY		80.5%		
TOTAL SOIL PROCESSING RECORDS (2		2,011		
NONPROCESS RECORDS (Test, calibr	ration, etc)	13		
20-SEC PROCESS RECORDS		1,449		
TOTAL SORT		1 MD>0 & MND=0	MND>0	
NO SORT		1,112 AD=0 & MD=0 8 336 AD>0&0 <md<mnd< td=""><td></td><td>Y</td></md<mnd<>		Y
SOME SORT	nnne	O SO AD SOCUED SHIP		^
UNEXPLAINED RECO		U	UNEXPLAIN	PAUSE
0 <ad<1kbq &="" md="">0</ad<1kbq>			TIME	TIME
AD=0 AD<0			11:01:15	05:31
	111 19.8%			05:33
ACT_P <5 kBq	111 17.0%			

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122

	2-cer rn	UNT PERIODS				14,490	ı					11
	2-350 00	2-SEC RECORD	S WITH S	ORTS				>0 kBq)				
		2-SEC RECORD			IN >1 DE	TECTOR						
			DETECTO		126		76.8%					
			DETECTO		31		18.9%					
		4	DETECTO	RS	5		3.0%					
			DETECTO		2		1.2%					
			DETECTO		0		0.0%					
			DETECTO		0		0.0%					
		RS	0		0.0%							
		T	OTAL			164	•					
		NET 2-SEC RE		TH SORTS		398	3					
		2-SEC PERIOD				14,092	<u>!</u>					
		AVG TIME BET				72.8	sec					
									CORT		ACT D	
1-GATE	SORTS	291	ACT_ND		SPEC_A			ACT_P		FREQ%	ACT_P	
DETECT	R SORTS	FREQ%	(Bq)	(#)	(Bq/kg)			(Bq)	(#)		(kBq)	
	4	0.39	-14000	0	-241			4000	30	5.3%	4	
1	1 15		-12000	. 0	-206			8000	247	44.0%	8	
2	30			1	-172			12000	106	18.9%	12	
3	54		-8000	5	-137			16000	27	4.8%	16	
4	63			3	-103			20000	32	5.7%	20	
5	50			31	-69			24000	18	3.2%	24	
6 7	56		-2000	94	-34			28000	16	2.8%	28	
8	22		0	213	0			32000	8	1.4%	32	
TOTAL	291		2000	360	34			36000	13	2.3%	36	
IOIAL			4000	336	69			40000	9	1.6%	40	
2-GATE	SUBTS	271	6000	200	103			44000	5	0.9%	44	
DETECT			8000	122	137			48000	4	0.7%	48	
8			10000	53	172			52000	9	1.6%	52	
9	6	2.2%	12000	23	206			56000	7	1.2%	56	
10			14000	14	241			60000	3	0.5%	60	
11	44		16000	4	275			64000	6		64	
12	48		18000	2	309			68000	3	0.5%	68	
13			20000	0	344			72000	2	0.4%	72	
14	50		22000	1	378			76000	4	0.7%	76	
15	43	15.9%	24000	0	412			80000	1	0.2%	80	
TOTAL			26000	0	447			84000	0	0.0%	84	
			>28000	0	0		2	84000	12	2.1%	>84	
			TOTAL	1462				TOTAL	562			
SUMMAR	Y TOTALS						04TE 0"	v	201			
		ICLE EVENTS	536 239		SORTS BY			_ t	291 271			
	MULTIPARTICLE EVENTS				SORTS BY	T IWO	GATES		211			
DISTRIBUTED EVENTS			83									

### REC CODE EXPLANATION

- 1.00 Source check (Soil on belt)
- 2.00 Empty belt
- 3.00 Test (No process soil)

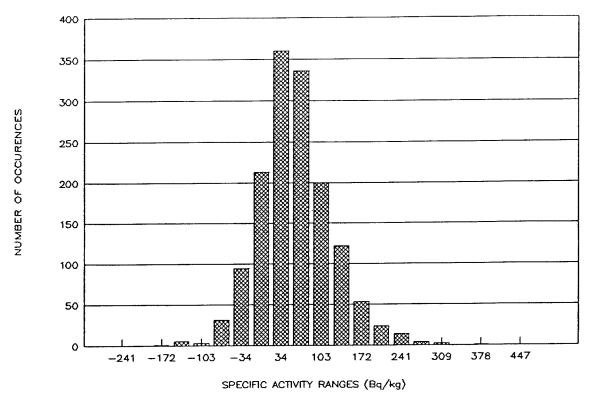
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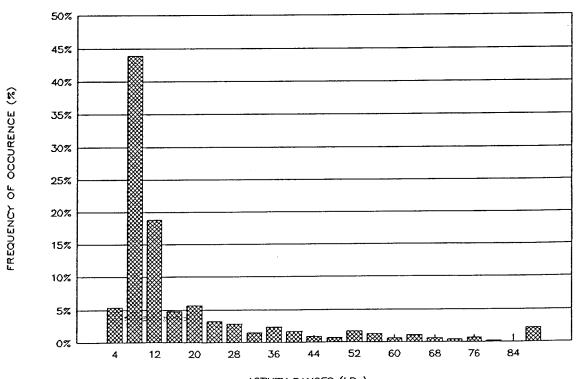
11:23

SORTER 1 LOG DATA FOR 21-Jul-93



### JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 1 LOG DATA FOR 21-Jul-93



ACTIVITY RANGES (kBq)

SORTER 2 21-Jul-93					
	. 7		0.07/		
AVERAGE BACKGROUND COUNT RATE	0.78		0.03 c/sec		
SORTER SOIL DENSITY		3 tons/m <sup>3</sup> 5 tons/m <sup>3</sup>			
GROUND SOIL DENSITY	1.0.	) LUNS/III	CONTAMINATED	CLEAN	
			0.77 tons	83.3 ton	s
MASS TOTAL			61.3 kg	58.3 kg	_
MAXIMUM/SORT			0.7 kg	48.8 kg	
MINIMUM/SORT			••• ··· ··· ·· ·· ·	-	
WEIGHT RECOVERY OR VOLUME RECOVE	RY				99.1%
EQUIVALENT SOIL-IN-GROUND			0.61 yd³	66.0 yd3	66.6 yd³/day
PARTICLE ACTIVITY (MAXIMUM ESTIM	ATE)				
TOTAL			12,455 kBq		
MAXIMUM/SORT			499 kBq		
MINIMUM/SORT			2.4 kBq		
			4,396 kBq	4,406 kBq	
DISPERSED + PARTICLE (REALISTIC	ESTIMATE) ACTIVITY		230 kBq	19 kBq	
MAXIMUM/SORT			-471 Bg	-12 kBq	
MINIMUM/SORT			5,743 Bq/kg	53 Bq/l	( <b>a</b>
SPECIFIC ACTIVITY			3,143 54 43	<del>-</del> -	•
WORK HISTORY					
WORK DAY START	05:00 AM		WORK DAY END	03:30 PM	
PLANT START-UP	05:00 AM		PLANT SHUT-DOWN	03:30 PM	
START SOIL PROCESSING	05:24 AM		END SOIL PROCESSING		•
LUNCH START	11:30 AM		LUNCH PERIOD	0.5 hr	
WORK HOURS			10.0 hr		
AVAILABLE HOURS			10.0 hr		
	OURS (total 20-sec r	records)	8.01 hr		
DOWN-TIME		•	1.99 hr		
TOTAL SYSTEM PAU	SE		1.60 hr		•
NONAVAILABLE HOU	RS		0.0 hr		
START-UP			0.42 hr		
SHUT-DOWN			0.43 hr		
PLANT PERFORMANC	<b>≣</b>		80.1%		
PRODUCTIVITY			80.1%		
TOTAL SOIL PROCESSING RECORDS (2	-sec and 20-sec)		2,058		
NONPROCESS RECORDS (Test, calibr			20		
20-SEC PROCESS RECORDS	2010, 000,		1,442		
TOTAL SORT			2 MD>0 & MND=0		
NO SORT			1,080 AD=0 & MD=0		
SOME SORT			360 AD>0&0 <md<mn< td=""><td>Dmax&amp;MND<mndmax< td=""><td>(</td></mndmax<></td></md<mn<>	Dmax&MND <mndmax< td=""><td>(</td></mndmax<>	(
UNEXPLAINED RECO	RDS		0		
0 <ad<1kbq &="" md="">0</ad<1kbq>	2			UNEXPLAIN	PAUSE
AD=0				TIME	TIME
AD<0	& MD 1			05:33:16	05:31
ACT_P <5 kBq	119 19.3	3%		08:50:16	05:33

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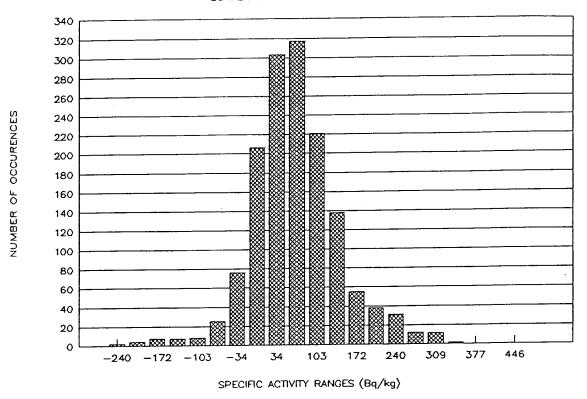
2	-SEC COUNT	PERIONS				14,420				11	0:19:36	11:23
2		SEC RECORD	S MITH S	DRTS		•	(ACT P	>0 kBq)				
		SEC RECORD			IN >1 DE		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
	2		DETECTO		141		81.5%					
			DETECTO		30		17.3%					
			DETECTO		2		1.2%					
			DETECTO		0		0.0%					
			DETECTO		0		0.0%					
			DETECTO		0		0.0%					
			DETECTO		0		0.0%					
			OTAL	(3	v	173	0.04					
		T 2-SEC RE		ru conte		443						
	*					13,977						
		SEC PERIOD				65.1						
		G TIME BET	WEEN 2-31	C 20K12		0).1	sec					
1-GATE S	ORTS	316	ACT_ND	NUMBER	SPEC_A			ACT_P		FREQX	ACT_P	
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)			(Bq)	(#)		(kBq)	
1	18	5.7%	-14000	2	-240			4000	29	4.7%	4	
2	43	13.6%	-12000	4	-206			8000	265	43.0%	8	
3	62	19.6%	-10000	7				12000	97	15.7%	12	
4	58	18.4%	-8000	7				16000	61	9.9%	16	
5	44	13.9%	-6000	8	-103			20000	37	6.0%	20	
6	51	16.1%	-4000	25	-69			24000	24	3.9%	24	
7	34	10.8%	-2000	76	-34			28000	9	1.5%	28	
8	6	1.9%	0	206	0			32000	13	2.1%	32	
TOTAL	316		2000	303	34			36000	12	1.9%	36	
			4000	317	69			40000	9	1.5%	40	
2-GATE S	ORTS	300	6000	221	103			44000	9	1.5%	44	
DETECTR	SORTS	FREQ%	8000	138	137			48000	3	0.5%	48	
8			10000	55	172			52000	4	0.6%	52	
9	33	11.0%	12000	38	206			56000	2	0.3%	56	
10	43	14.3%	14000	31	240			60000	5	0.8%	60	
11	57	19.0%	16000	12	274			64000	3	0.5%	64	
12	55	18.3%	18000	11	309			68000	6	1.0%	68	
13	47	15.7%	20000	1	343			72000	0	0.0%	72	
14	49	16.3%	22000	0	377			76000	2	0.3%	76	
15	16	5.3%	24000	0	412			80000	1	0.2%	80	
TOTAL	300		26000	0	446			84000	1	0.2%	84	
			>28000	0	0		>	84000	24	3.9%	>84	
			TOTAL	1462				TOTAL	616			
SUMMARY	TOTALS											
н	OT PARTICL	E EVENTS	603		SORTS BY	ONE G	ATE ONL	Υ.	316			
м	ULTIPARTIC	LE EVENTS	283		SORTS BY	TWO G	ATES		300			
D	ISTRIBUTED	EVENTS	164									

#### REC CODE EXPLANATION

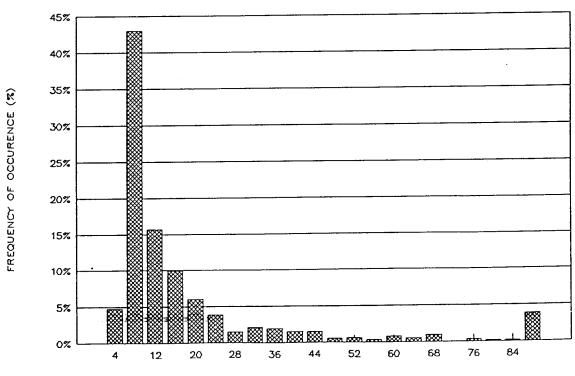
1.00 Source check (Soil on belt)

2.00 Empty belt

SORTER 2 LOG DATA FOR 21-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES SORTER 2 LOG DATA FOR 21-Jul-93



ACTIVITY RANGES (kBq)

SORTER 1 22-Jul-93				
AVERAGE BACKGROUND COUNT RATE	0.7	72 ± 0.04 c/sec		
SORTER SOIL DENSITY		3 tons/m³		
GROUND SOIL DENSITY		55 tons/m³		
andons dore sensiti		CONTAMINATED	CLEAN	
MASS TOTAL		0.28 tons	83.4 tor	ns
MAXIMUM/SORT		61.1 kg	58.2 kg	
MINIMUM/SORT		0.7 kg	52.4 kg	
WEIGHT RECOVERY OR VOLUME RECOVER	RY			99.7%
EQUIVALENT SOIL-IN-GROUND		0.22 yd³	66.1 yd³	66.3 yd³/day 1
PARTICLE ACTIVITY (MAXIMUM ESTIMA	ITE)			
TOTAL		8,768 kBq		
MAXIMUM/SORT		2,042 kBq		
MINIMUM/SORT		3.5 kBq		
DISPERSED + PARTICLE (REALISTIC E	STIMATE) ACTIVITY	2,840 kBq	1,754 kBq	1
HAXIMUM/SORT		1285 kBq	14 kBq	l
MINIMUM/SORT		-2947 Bq	-7 kBq	Ī
SPECIFIC ACTIVITY		10,052 Bq/kg	21 Bq/	kg
WORK HISTORY				
WORK DAY START	05:00 AM	WORK DAY END	03:30 PM	
PLANT START-UP	05:00 AM	PLANT SHUT-DOWN	03:30 PM	
START SOIL PROCESSING	05:43 AM	END SOIL PROCESS	SING 03:03 PM	
LUNCH START	11:30 AM	LUNCH PERIOD	0.5 hr	
WORK HOURS		10.0 1	-	
AVAILABLE HOURS		10.0 h 10.0 h		
	URS (total 20-sec			
DOWN-TIME	oks (total 20 sec	2.01 h		
TOTAL SYSTEM PAUS	F	1.30 h		
NONAVAILABLE HOUR	_	0.0 h		
START-UP	•	0.73 h		
SHUT-DOWN		0.45 h		
PLANT PERFORMANCE		79.9%	•	
PRODUCTIVITY		79.9%		•
TOTAL SOIL PROCESSING RECORDS (2-		1,653		
NONPROCESS RECORDS (Test, calibra	tion, etc)	13		
20-SEC PROCESS RECORDS		1,438		•
TOTAL SORT		1 MD>0 & MN		
NO SORT		1,285 AD=0 & MD		
SOME SORT	ne ·		MNDmax&MND <mndmax< p=""></mndmax<>	
UNEXPLAINED RECORD		1	18/CVD: 474	DALICE
0 <ad<1kbq &="" md="">0</ad<1kbq>	0		UNEXPLAIN	PAUSE TIME
& 0=0A & 0>DA			TIME 12:43:13	11:24
ACT P <5 kBq	42 19.5	5%	13:44:13	12:42
	:= ****		• • • • • • • • • • • • • • • • • • •	

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1

COUNT PERIODS	14,38	)
2-SEC RECORDS WITH SORTS	21	(ACT_P >0 kBq)
2-SEC RECORDS WITH POSITIVES	IN >1 DETECTOR	₹
2 DETECTORS	48	73.8%
3 DETECTORS	12	18.5%
4 DETECTORS	3	4.6%
5 DETECTORS	2	3.1%
6 DETECTORS	0	0.0%
7 DETECTORS	0	0.0%
8 DETECTORS	0	0.0%
TOTAL	6	5
NET 2-SEC RECORDS WITH SORTS	150	)
2-SEC PERIODS WITH NO SORTS	14,230	)
AVG TIME BETWEEN 2-SEC SORTS	191.	7 sec

1-GATE S	ORTS	104	ACT_ND	NUMBER	SPEC_A	ACT_P		FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)	(Bq)	(#)		(kBq)
							_		,
1	2	1.9%	-14000	3		4000	8	3.7%	4
2	6	5.8%	-12000	2		8000	83	38.6%	8
3	11	10.6%	-10000	2		12000	28	13.0%	12
4	24	23.1%	-8000	1	-137	16000	16		16
5	25	24.0%	-6000	6	-103	20000	12		20
6	17	16.3%	-4000	37	-69	24000	10		24
7	16	15.4%	-2000	141	-34	28000	3		28
8	3	2.9%	0	312	0	32000	5		32
TOTAL	104		2000	385	34	36000	7	3.3%	<b>3</b> 6
			4000	336	69	40000	2	0.9%	40
2-GATE S	ORTS	111	6000	153	103	44000	3	1.4%	44
DETECTR	SORTS	FREQ%	8000	57	137	48000	4	1.9%	48
8			10000	13	172	52000	2	0.9%	52
9	3	2.7%	12000	2	206	56000	1	0.5%	56
10	11	9.9%	14000	1	241	60000	3	1.4%	60
11	19	17.1%	16000	0	275	64000	5	2.3%	64
12	21	18.9%	18000	0	309	68000	4	1.9%	68
13	25	22.5%	20000	0	344	72000	0	0.0%	72
14	21	18.9%	22000	0	378	76000	3	1.4%	76
15	11	9.9%	24000	0	412	80000	1	0.5%	80
TOTAL	111		26000	0	447	84000	1	0.5%	84
			>28000	0	0	>84000	14	6.5%	>84
			TOTAL	1451		TOTAL	215		
SUMMARY	TOTALS								
		LE EVENTS	219		SORTS BY	ONE GATE ONLY	104		
		CLE EVENTS	84		SORTS BY	TWO GATES	111		
	ISTRIBUTE		83						
ı	131810010	D LYCNIS							

#### REC CODE EXPLANATION

2-SEC

1.00 Source check (Soil on belt)

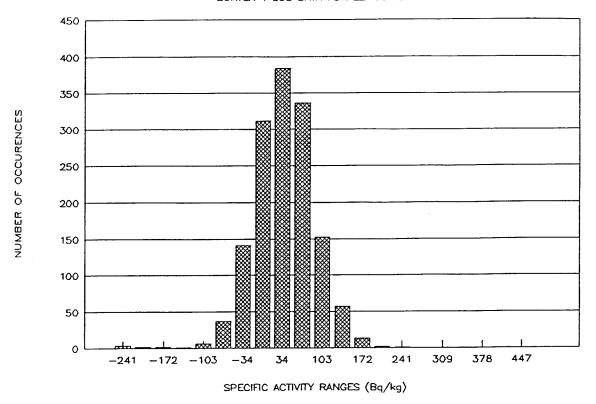
2.00 Empty belt

3.00 Test (No process soil)

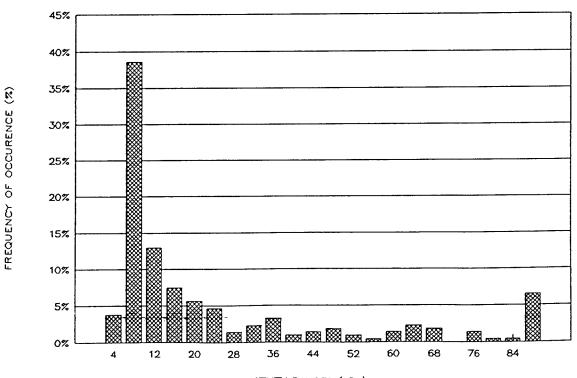
File S1JA0722.WR1

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SORTER 1 LOG DATA FOR 22-Jul-93



## JA SOIL CLEANUP PLANT HOT PARTICLES SORTER 1 LOG DATA FOR 22-Jul-93



SORTER 2 22-Jul-93				
AVERAGE BACKGROUND COUNT RATE	0.79 ± 0.0	03 c/sec		
SORTER SOIL DENSITY	1.3 tons/m³			
GROUND SOIL DENSITY	1.65 tons/m³			
		CONTAMINATED	CLEAN	
MASS TOTAL		0.23 tons	82.9 tons	
MAXIMUM/SORT		61.3 kg	58.3 kg	
MINIMUM/SORT		0.7 kg	54.6 kg	
THE PERSON OF TH				99.7%
WEIGHT RECOVERY OR VOLUME RECOVERY		0.19 yd³	65.7 yd³	65.9 yd3/day
EQUIVALENT SOIL-IN-GROUND		· · · /-	·	
PARTICLE ACTIVITY (MAXIMUM ESTIMAT	E)			
TOTAL		4,139 kBq		
MAXIMUM/SORT		271 kBq		
MINIMUM/SORT		3.3 kBq		
DISPERSED + PARTICLE (REALISTIC ES	TIMATE) ACTIVITY	1,397 kBq	(3,253)kBq	
MAXIMUM/SORT		159 kBq	15 kBq	
MINIMUM/SORT		0 8q	-12 kBq	
SPECIFIC ACTIVITY		5,965 Bq/kg	(39)Bq/kg	
WORK HISTORY	05-00 AM	WORK DAY END	03:30 PM	
WORK DAY START	05:00 AM	PLANT SHUT-DOWN	03:30 PM	
PLANT START-UP	05:00 AM 05:45 AM	END SOIL PROCESSING		
START SOIL PROCESSING LUNCH START	11:30 AM	LUNCH PERIOD	0.5 hr	
EUNCH START	,,,,,,			
WORK HOURS		10.0 hr		
AVAILABLE HOURS		10.0 hr		
ACTUAL PROCESS HOU	RS (total 20-sec records)	7.92 hr		
DOWN-TIME		2.08 hr		
TOTAL SYSTEM PAUSE		1.30 hr		
NONAVAILABLE HOURS		0.0 hr		
START-UP		0.76 hr		
SHUT-DOWN		0.47 hr		
PLANT PERFORMANCE		79.2%		
PRODUCTIVITY		79.2%		
TOTAL SOIL PROCESSING RECORDS (2-S	SEC and 20-SEC)	1,593		
NONPROCESS RECORDS (Test, calibrat		21		
20-SEC PROCESS RECORDS		1,426		
TOTAL SORT		1 MD>0 & MND=0		
NO SORT		1,293 AD=0 & MD=0 &		,
SOME SORT		132 AD>0&0 <md<mn(< td=""><td>xsmCNM&gt;CNM3xsmC</td><td></td></md<mn(<>	xsmCNM>CNM3xsmC	
UNEXPLAINED RECORD	os	0		
0 <ad<1kbq &="" md="">0</ad<1kbq>	1			PAUSE
& D=0 &	MD 0		TIME	TIME
AD<0 &	MD 0		12:43:13	11:24
ACT_P <5 kBq	13 7.8%		14:16:53	12:42

File S2JA0722.WR1

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1

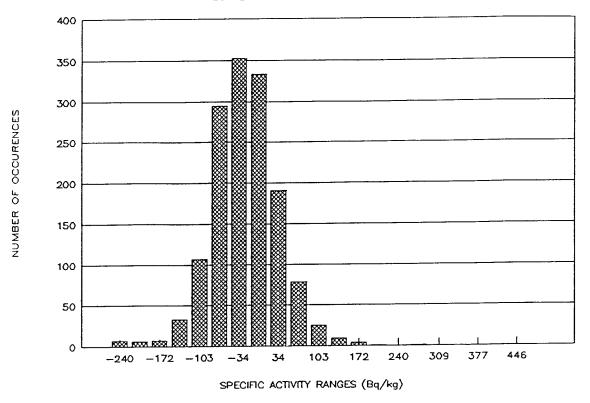
2-SEC COUNT PERIODS	14,2	50
2-SEC RECORDS WITH SORTS	10	67 (ACT_P >0 kBq)
2-SEC RECORDS WITH POSITIVES	IN >1 DETECT	DR .
2 DETECTORS	45	90.0%
3 DETECTORS	4	8.0%
4 DETECTORS	1	2.0%
5 DETECTORS	0	0.0%
6 DETECTORS	0	0.0%
7 DETECTORS	0	0.0%
8 DETECTORS	0	0.0%
TOTAL	9	50
NET 2-SEC RECORDS WITH SORTS	1	17
2-SEC PERIODS WITH NO SORTS	14,14	43
AVG TIME BETWEEN 2-SEC SORTS	243.	.8 sec

1-GATE S	ORTS	<b>88</b>	ACT_ND	NUMBER	SPEC_A	ACT_P	SORT	FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)	(Bq)	(#)		(k8q)
. 1	5	5.7%	-14000	7	-240	4000	3	1.8%	4
2	11	12.5%	-12000	6	-206	8000	62	37.1%	8
3	17	19.3%	-10000	7	-172	12000	27	16.2%	12
4	17	19.3%	-8000	33	-137	16000	16	9.6%	16
5	22	25.0%	-6000	107	-103	20000	13	7.8%	20
6	10	11.4%	-4000	294	-69	24000	10	6.0%	24
7	6	6.8%	-2000	<b>3</b> 52	-34	28000	3	1.8%	28
8	0	0.0%	0	333	0	32000	1	0.6%	<b>3</b> 2
TOTAL	88		2000	190	34	36000	1	0.6%	36
			4000	78	69	40000	3	1.8%	40
2-GATE S	ORTS	79	6000	25	103	44000	1	0.6%	44
DETECTR	SORTS	FREQ%	8000	9	137	48000	1	0.6%	48
8			10000	4	172	52000	2	1.2%	52
9	7	8.9%	12000	1	206	56000	5	3.0%	56
10	11	13.9%	14000	0	240	60000	1	0.6%	60
11	17	21.5%	16000	1	274	64000	4	2.4%	64
12	19	24.1%	18000	0	309	68000	4	2.4%	68
13	18	22.8%	20000	0	343	72000	3	1.8%	72
14	5	6.3%	22000	0	377	76000	0	0.0%	76
15	2	2.5%	24000	0	412	80000	0	0.0%	80
TOTAL	79		26000	0	446	84000	1	0.6%	84
			>28000	0	0	>84000	6	3.6%	>84
			TOTAL	1447		TOTAL	167		
SUMMARY	TOTALS								
н	OT PARTICL	E EVENTS	155		SORTS BY	ONE GATE ONLY	<b>88</b>		
M	ULTIPARTIC	LE EVENTS	83		SORTS BY	TWO GATES	79		
D	ISTRIBUTED	EVENTS	84						

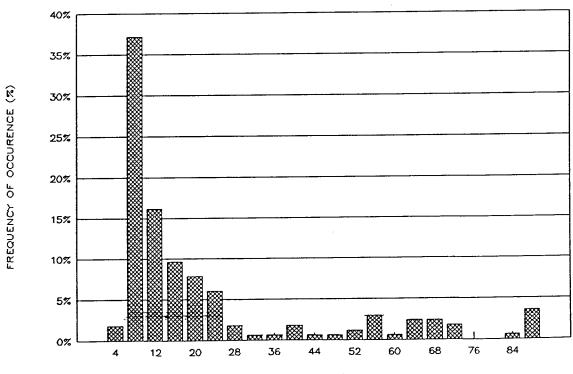
#### REC CODE EXPLANATION

- 1.00 Source check (Soil on belt)
- 2.00 Empty belt
- 3.00 Test (No process soil)

SORTER 2 LOG DATA FOR 22-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES SORTER 2 LOG DATA FOR 22-Jul-93



ACTIVITY RANGES (kBq)

SORTER 1 23-Jul-93					
AVERAGE BACKGROUND COUNT RATE	0.75	± 0.05 c/sec			
SORTER SOIL DENSITY	1.3	tons/m³			
GROUND SOIL DENSITY	1.65	tons/m³			
		CONTAMINATED	CLEAN		
MASS TOTAL		0.20 tons	78.3 tor	าร	
MAXIMUM/SORT		5.1 kg	58.2 kg		
MINIMUM/SORT		0.7 kg	53.1 kg		
WEIGHT RECOVERY OR VOLUME RECOV	/ERY			99.8%	
EQUIVALENT SOIL-IN-GROUND		0.15 yd³	62.1 yd³	62.2 yd <sup>3</sup> /day	i
PARTICLE ACTIVITY (MAXIMUM ESTI	MATE)				
TOTAL		6,352 k8q			
MAXIMUM/SORT		1,134 kBq			
MINIMUM/SORT		2.7 kBq			
•					
DISPERSED + PARTICLE (REALISTIC	ESTIMATE) ACTIVITY	1,946 kBq	1,237 kBq	1	
MAXIMUM/SORT		637 kBq	12 kBq	I	
MINIMUM/SORT		0 Bq	-9 kBq		
SPECIFIC ACTIVITY		9,957 Bq/kg	16 Bq/	kg	
HOOK MICTORY					
WORK HISTORY WORK DAY START	05:00 AM	LIDDY DAY END	03:30 PM		
PLANT START-UP	05:00 AM	WORK DAY END	03:30 PM		
START SOIL PROCESSING	05:28 AM	PLANT SHUT-DOWN  END SOIL PROCESSING			
LUNCH START	11:30 AM	LUNCH PERIOD	0.5 hr		
2011211 2011111			• • • • • • • • • • • • • • • • • • • •		
WORK HOURS		10.0 hr			
AVAILABLE HOURS		10.0 hr			
ACTUAL PROCESS	HOURS (total 20-sec re	cords) 7.49 hr			
DOWN-TIME		2.51 hr			
TOTAL SYSTEM PA	USE	1.99 hr			
NONAVAILABLE HO	URS	0.0 hr			
START-UP		0.48 hr			
SHUT-DOWN		0.48 hr			
PLANT PERFORMAN	CE	74.9%			
PRODUCTIVITY		74.9%			
TOTAL SOIL PROCESSING RECORDS (	2-SEC and 20-SEC)	1,521			
NONPROCESS RECORDS (Test, calib		20			
20-SEC PROCESS RECORDS	,	1,349			
TOTAL SORT		0 MD>0 & MND=0			
NO SORT		1,204 AD=0 & MD=0 8	k MND>0		
SOME SORT		145 AD>0&0 <md<mni< td=""><td></td><td><b>K</b></td><td></td></md<mni<>		<b>K</b>	
UNEXPLAINED RECO	DROS	0			•
0 <ad<1kbq &="" md="">0</ad<1kbq>		-	UNEXPLAIN	PAUSE	
AD=0			TIME	TIME	
AD<0			None	11:26	
ACT_P <5 kBq	31 18.0%			13:17	
<u>-</u> .					

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134

13,490

2-SEC COUNT PERIODS						13,490					
	2-SEC RECORDS WITH SORTS					172	(ACT_P	>0 kBq)			
2-SEC RECORDS WITH POSITIVES				IN >1 DE	TECTOR						
	2 DETECTORS				37		82.2%				
	3 DETECTORS				8		17.8%				
	4 DETECTORS				0		0.0%				
	5 DETECTORS				0		0.0%				
		6	DETECTO	RS	0		0.0%				
	7 DETECTORS				0		0.0%				
	8 DETECTORS				0		0.0%				
	TOTAL					45					
	NET 2-SEC RECORDS WITH SORTS					127					
2-SEC PERIODS WITH NO SORTS					13,363						
AVG TIME BETWEEN 2-SEC SORTS						212.4	sec				
										55504	407.0
1-GATE	SORTS	81	ACT_ND		SPEC_A			ACT_P		FREQ%	ACT_P
DETECT	R SORTS	FREQ%	(Bq)	(#)	(Bq/kg)			(pg)	(#)		(kBq)
	2	2.5%	-14000	1	-241			4000	9	5.2%	4
1		4.9%	-12000	1	-206			8000	60	34.9%	8
3		12.3%	-10000	4	-172			12000	37	21.5%	12
د 4		14.8%	-8000	6	-137			16000	15	8.7%	16
5		22.2%	-6000	10	-103			20000	8	4.7%	20
6		19.8%	-4000	56	-69			24000	5	2.9%	24
7		19.8%	-2000	160	-34			28000	2	1.2%	28
8		3.7%	0	275	0			32000	6	3.5%	32
TOTAL		3.7%	2000	380	34			36000	3	1.7%	36
IOIAL	01		4000	275	69			40000	1	0.6%	40
2-GATE	STRUS	91	6000	137	103			44000	1	0.6%	44
DETECT		FREQ%	8000	47	137			48000	1	0.6%	48
8		1112417	10000	14	172			52000	0	0.0%	52
9		4.4%	12000	3	206			56000	2	1.2%	56
10		8.8%	14000	0	241			60000	2	1.2%	60
11		19.8%	16000	0	275			64000	0	0.0%	64
12		19.8%	18000	0	309			68000	4	2.3%	68
13		22.0%	20000	0	344			72000	3	1.7%	72
14		17.6%	22000	0	378		•	76000	0	0.0%	76
15		7.7%	24000	0	412		;	B0000	3	1.7%	80
TOTAL	91	• • • • • • • • • • • • • • • • • • • •	26000	0	447		;	84000	0	0.0%	84
TOTAL	,		>28000	0	0		>	84000	10	5.8%	>84
			TOTAL	1369	-			TOTAL	172		
SUMMARY TOTALS											
HOT PARTICLE EVENTS			180		SORTS BY	ONE GA	ATE ONL	Y	81		
	MULTIPARTICLE EVENTS				SORTS BY	TWO GA	ATES		91		
	DISTRIBU	TED EVENTS	0								

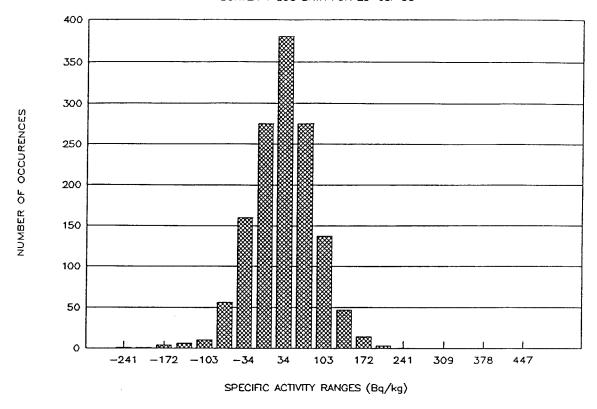
#### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

2.00 Empty belt

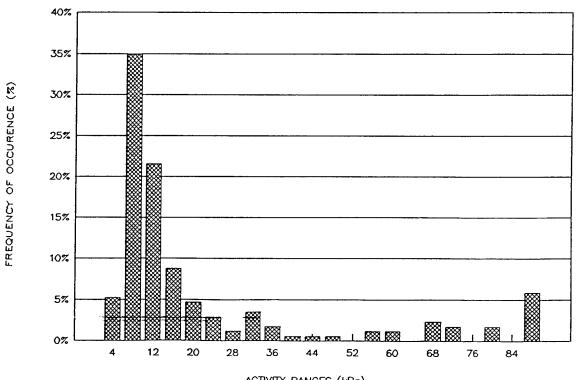
2-SEC COUNT PERIODS

SORTER 1 LOG DATA FOR 23-Jul-93



### JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 1 LOG DATA FOR 23-Jul-93



ACTIVITY RANGES (kBq)

SORTER 2	23-Jul-93							
AVERAGE BACKGROU	IND COUNT BATE		0.79	± 0.0	3 c/sec			
		1.3	tons/m³					
SORTER SOIL DENSITY GROUND SOIL DENSITY			1.65	tons/m³				
GKOOND SOIL DENG					CONTAMINATED	CLEAN		
MASS TOTAL					0.18 tons	74.4	tons	
MAXIMUM/S	CORT				5.1 kg	58.3	kg	
MINIMUM/S					0.7 kg	53.2	kg	
1111110117								
₩FIGHT RECOVERY	OR VOLUME RECOVERY							99.8%
EQUIVALENT SOIL-					0.14 yd <sup>3</sup>	59.0	Aq2	59.1 yd <sup>3</sup> /day
	•							
PARTICLE ACTIVIT	Y (MAXIMUM ESTIMATE	)						
TOTAL					3,650 kBq			
MAXIMUM/S	CORT				540 kBq			
MINIMUM/S					3.3 kBq			
DISPERSED + PART	ICLE (REALISTIC EST	IMATE) ACTI	VITY		1,276 kBq	3,209	•	
MAXIMUM/S	ORT				329 kBq	20	•	
MINIMUM/S	SORT				0 Bq	-13	•	
SPECIFIC	ACTIVITY				7,158 Bq/kg	43	Bq/kg	
WORK HISTORY						07.70 DH		
WORK DAY	START	05:00 AM			WORK DAY END	03:30 PM		
PLANT STA	ART-UP	05:00 AM			PLANT SHUT-DOWN	03:30 PM		
START SOI	L PROCESSING	05:28 AM			END SOIL PROCESSING	03:01 PM 0.5	h.c	
LUNCH STA	ART	11:30 AM			LUNCH PERIOD	ر.ں	111	
	LODE HOUSE				10.0 hr			
	WORK HOURS				10.0 hr		•	
	AVAILABLE HOURS	ecords)	7.11 hr					
	ACTUAL PROCESS HOURS (total 20-sec records) DOWN-TIME							
	TOTAL SYSTEM PAUSE				2.39 hr			
	NONAVAILABLE HOURS				0.0 hr			
	START-UP				0.48 hr			
	SHUT-DOWN				0.47 hr			
PLANT PERFORMANCE					71.1%			
	PRODUCTIVITY		71.1%					
	7.000011111							
TOTAL SOIL PROCE	ESSING RECORDS (2-SE	C and 20-SE		1,440				
			19					
NONPROCESS RECORDS (Test, calibration, etc) 20-SEC PROCESS RECORDS					1,279			
TOTAL SORT				0 MD>0 & MND=0				
	NO SORT		1,134 AD=0 & MD=0 & MND>0					
	SOME SORT		145 AD>0&0 <md<mndmax&mnd<mndmax< td=""></md<mndmax&mnd<mndmax<>					
	UNEXPLAINED RECORDS				0			_
	0 <ad<1kbq &="" md="">0</ad<1kbq>	0				UNEXPLAIN	ł f	PAUSE
	AD=0 & F	1D 0				TIME		TIME
	AD<0 & P	ID 0				None		05:39
	ACT_P <5 kBq	19	11.8	3%				11:25
	_							

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	2-SEC CO	OUNT PERIODS			12,790							
		2-SEC RECORE	S WITH S	SORTS		161	(ACT_P	>0 kBq)				
		2-SEC RECORD	S WITH F	POSITIVES	IN >1 DE	ETECTOR						
		2	DETECTO	)RS	38		86.4%					
		3	DETECTO	RS	6		13.6%					
		4	DETECTO	)RS	0		0.0%					
		9	DETECTO	)RS	0		0.0%					
			DETECTO	)RS	0		0.0%					
		7	DETECTO	RS	0		0.0%					
		8	DETECTO	RS	0		0.0%					
		1	TOTAL			44						
		NET 2-SEC RE	CORDS WI	TH SORTS		117						
2-SEC PERIODS WITH NO SORT						12,673						
AVG TIME BETWEEN				EC SORTS		218.6	sec					
1-GATE	SORTS	80	ACT_ND	NUMBER	SPEC_A			ACT_P	SORT	FREQ%	ACT_P	
DETECT		FREQ%	(Bq)		(Bq/kg)			_ (Bq)	(#)		(kBq)	
			•									
1	3	3.8%	-14000	1	-240			4000	6	3.7%	4	
2	11	13.8%	-12000	3	-206			8000	59	36.6%	8	
3	17		-10000	2	-172			12000	31	19.3%	12	
4	18		-8000	8	-137			16000	15	9.3%	16	
5	8	10.0%	-6000	8	-103			20000	10	6.2%	20	
6	-11	13.8%	-4000	22	-69			24000	5	3.1%	24	
7	10	12.5%	-2000	71	-34			28000	2	1.2%	28	
8	2	2.5%	0	168	0		3	32000	7	4.3%	32	
TOTAL	80		2000	292	34		3	6000	5	3.1%	36	
			4000	325	69		4	0000	2	1.2%	40	
2-GATE	SORTS	81	6000	247	103		4	4000	2	1.2%	44	
DETECTI	R SORTS	FREQ%	8000	97	137		4	8000	3	1.9%	48	
8			10000	31	172		5	2000	0	0.0%	52	
9	6	7.4%	12000	13	206		5	6000	0	0.0%	56	
10	10	12.3%	14000	4	240		(	0000	1	0.6%	60	
11	19	23.5%	16000	3	274		(	4000	4	2.5%	64	
12	16	19.8%	18000	2	309			8000	1	0.6%	68	
13	11	13.6%	20000	0	343		7	2000	3	1.9%	72	
14	12	14.8%	22000	1	377		7	<b>7</b> 6000	1	0.6%	76	
15	7	8.6%	24000	0	412		8	30000	1	0.6%	80	
TOTAL	81		26000	0	446		ε	4000	0	0.0%	84	
			>28000	0	0		>8	4000	3	1.9%	>84	
			TOTAL	1298			1	OTAL	161			
SUMMARY	Y TOTALS											
	HOT PART	ICLE EVENTS	164		SORTS BY	ONE GA	TE ONLY	•	80			
	MULTIPAR	TICLE EVENTS	81		SORTS BY	TWO GA	TES		81			
	DISTRIBU	TED EVENTS	0									

### REC CODE EXPLANATION

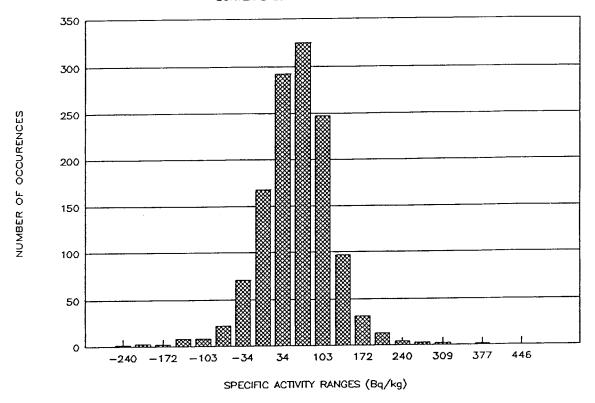
1.00 Source check (Soil on belt)

2.00 Empty belt

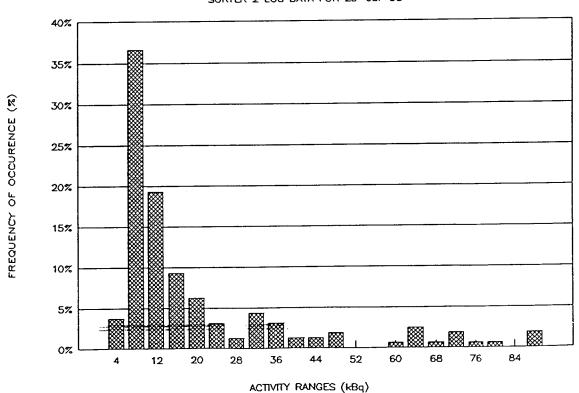
3.00 Test (No process soil)

13:17

SORTER 2 LOG DATA FOR 23-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES SORTER 2 LOG DATA FOR 23-Jul-93



SORTER 1 24-Jul-93				
AVERAGE BACKGROUND COUNT RATE	0.73 ± 0	.04 c/sec		
SORTER SOIL DENSITY	1.3 tons/m <sup>3</sup>			
GROUND SOIL DENSITY	1.65 tons/m <sup>3</sup>			
		CONTAMINATED	CLEAN	
MASS TOTAL		0.12 tons	61.0 ton	s
MAXIMUM/SORT		2.9 kg	58.2 kg	
MINIMUM/SORT		0.7 kg	<b>55.3</b> kg	
WEIGHT RECOVERY OR VOLUME RECOV	ERY			99.8%
EQUIVALENT SOIL-IN-GROUND		0.10 yd³	48.4 yd³	48.5 yd³/day ,
PARTICLE ACTIVITY (MAXIMUM ESTI	MATEL			
TOTAL		2,566 kBq		
MAXIMUM/SORT		279 kBq		
MINIMUM/SORT		3.1 kBq		
		•		
DISPERSED + PARTICLE (REALISTIC	ESTIMATE) ACTIVITY	827 kBq	1,985 kBq	
MAXIMUM/SORT		180 kBq	17 kBq	
MINIMUM/SORT		0 8q	-11 kBq	
SPECIFIC ACTIVITY		6,783 Bq/kg	33 Bq/I	kg
WORK HISTORY				
WORK DAY START	05:00 AM	WORK DAY END	03:30 PM	
PLANT START-UP	05:00 AM	PLANT SHUT-DOWN	12:15 PM	
START SOIL PROCESSING	05:53 AM	END SOIL PROCESSING	11:46 AM	
LUNCH START	12:30 PM	LUNCH PERIOD	0.5 hr	
WORK HOURS		10.0 hr		
AVAILABLE HOURS		7.2 hr		•
ACTUAL PROCESS	HOURS (total 20-sec records)	5.84 hr		
DOWN-TIME		1.41 hr		
TOTAL SYSTEM PA	USE	0.00 hr		
NONAVAILABLE HO	URS	2.8 hr		
START-UP		0.90 hr		
SHUT-DOWN		0.48 hr		
PLANT PERFORMANI	Œ	80.5%		
PRODUCTIVITY		58.4%		
TOTAL SOIL PROCESSING RECORDS (	2-SEC and 20-SEC)	1,172		
NONPROCESS RECORDS (Test, calib	ration, etc)	14		
20-SEC PROCESS RECORDS		1,051		
TOTAL SORT		0 MD>0 & MND=0		•
NO SORT		954 AD=0 & MD=0 8	MND>0	
SOME SORT		97 AD>0&0 <hd<hn0< td=""><td>max&amp;MND<mndmax< td=""><td></td></mndmax<></td></hd<hn0<>	max&MND <mndmax< td=""><td></td></mndmax<>	
UNEXPLAINED RECO	DRDS	0		
0 <ad<1k8q &="" md="">0</ad<1k8q>	0		UNEXPLAIN	PAUSE
AD=0	& MD 0		TIME	TIME
AD<0	& MD 0		None	None
407 O -F 15	24 47 /9			

Printed on 07/24/93 at 01:58:53 PM

ACT\_P <5 kBq

21 17.4%

121 (ACT\_P >0 kBq)

10,510

		2-SEC RECORD	S WITH P	OSITIVES	IN >1 DE	TECTO	₹ _				
			DETECTO		28		84.8%				
			DETECTO		4		12.1%				
			DETECTO		1		3.0%				
			DETECTO		0		0.0%				
			DETECTO		0		0.0%				
			DETECTO		0		0.0%				
			DETECTO		0		0.0%				
		Т	OTAL			33	3				
		NET 2-SEC RE	CORDS WI	TH SORTS		88	3				
		2-SEC PERIOD	S WITH N	O SORTS		10,422	2				
		AVG TIME BET	WEEN 2-S	EC SORTS		238.9	9 sec				
4 0175 00		47	ACT ND	NUMBER	SPEC_A		<b>A</b> C	TP SC	ORT	FREQ%	ACT_P
1-GATE SC		63 FREQ%	ACT_ND		(Bq/kg)			-	(#)		(kBq)
DETECTR	SORTS	rkewa	(Bq)	(#/	(pd) va)		`	oq, .	,		***********
1	0	0.0%	-14000	0	-241		4	000	5	4.1%	4
2	3	4.8%	-12000	. 0	-206		8	000	52	43.0%	8
3	7	11.1%	-10000	3	-172		12	000	23	19.0%	12
4	11	17.5%	-8000	6	-137		16	000	12		16
5	13	20.6%	-6000	3	-103		20	000	4		20
6	12	.19.0%	-4000	16	-69		24	000	0		24
7	13	20.6%	-2000	68	-34			000	6		28
8	4	6.3%	0	191	0			000	2		32
TOTAL	63		2000	272	34			000	1		36
			4000	277	69			000	0		40
2-GATE SC	ORTS	58	6000	141	103			000	1		44
DETECTR	SORTS	FREQ%	8000	69	137			000	0		48
8			10000	13	172			000	1		52
9	1	1.7%	12000	3	206			000	0		56
10	6	10.3%	14000	3	241			000	4		60
11	8	13.8%	16000	0	275			000	1		64
12	14	24.1%	18000	1	309			000	3		68
13	12	20.7%	20000	0	344			000	0		72
14	8	13.8%	22000	0	378			000	1		76 80
15	9	15.5%	24000	0	412			000	0		
TOTAL	58		26000	0	447			000	0		84
			>28000	0	0		>84		5	4.1%	>84
			TOTAL	1066			10	TAL 1	121		
SUMMARY 1		ICLE EVENTS	115		SORTS BY	ONE O	SATE ONLY		63		
		TICLE EVENTS	52		SORTS BY				58		
		TED EVENTS	0		32						

### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

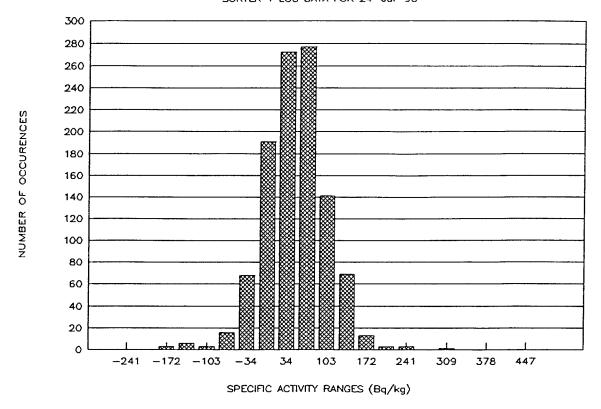
2.00 Empty belt

2-SEC COUNT PERIODS

2-SEC RECORDS WITH SORTS

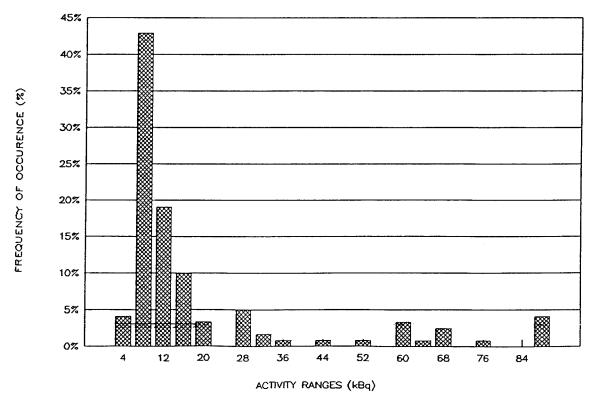
3.00 Test (No process soil)

SORTER 1 LOG DATA FOR 24-Jul-93



## JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 1 LOG DATA FOR 24-Jul-93



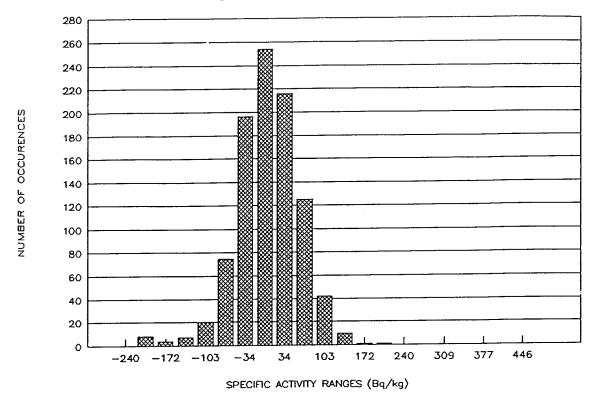
AVERACE BACKGROUND COUNT RATE  SORTER SOIL DENSITY  1.3 tons/m²  GROUND SOIL DENSITY  1.55 tons/m²  CROUND SOIL DENSITY  1.55 tons/m²  CROWNING SOIL DENSITY  MASS TOTAL  MASS TOTAL  MAXIMAM/SORT  MINIMAM/SORT  LEIGHT RECOVERY OR VOLUME RECOVERY  EQUIVALENT SOIL-IN-GROUND  PARTICLE ACTIVITY (MAXIMAM ESTIMATE)  TOTAL  MAXIMAM/SORT  MINIMAM/SORT  MORE DAY START  MOST DAY START  MO	SORTER 2 24-Jul-93					
SORTER SDIL DENSITY	DOMINER E					
CONTAMINATED   CLEAN   CONTAMINATED   CLEAN   CONTAMINATED   CLEAN   CONTAMINATED   CLEAN	AVERAGE BACKGROUND COUNT RATE			3 c/sec		
MASS TOTAL  MAXIMAYSORT  MINIMAN/SORT  MORE DAY START  MORE DAY START  MINIMAN/SORT  MORE DAY START  MORE DA	SORTER SOIL DENSITY					
MAXIMAN/SORT   MIXIMAN/SORT   0.21 tons   55.3 tons	GROUND SOIL DENSITY	1	.65 tons/m³			
MAXIMUM/SORT   58.3 kg   58.3 kg   59.5 kg   59.5 kg   59.5 kg   59.5 kg   59.5 kg   59.6 kg				CONTAMINATED	CLEAN	
MINIMM/SORT 0.7 kg 55.3 kg  MEIGHT RECOVERY OR VOLUME RECOVERY EQUIVALENT SOIL-IN-GROUND 0.17 yd¹ 43.9 yd¹ 44.0 yd¹/day  PARTICLE ACTIVITY (MAXIMUM ESTIMATE)  TOTAL MAXIMUM/SORT 80 KBq MAXIMUM/SORT 80 KBq MAXIMUM/SORT 1.0 kBq 6581kBq MAXIMUM/SORT 1.0 kBq 10 kBq MAXIMUM/SORT 48 kBq 10 kBq MINIMM/SORT 6 Bq -14 kBq MINIMM/SORT 6 Bq -14 kBq MINIMM/SORT 7 BB WORK DAY END 05:00 AM PLANT SMUT-DOWN 12:15 PM START-UP 05:00 AM PLANT SMUT-DOWN 12:15 PM START 101 PROCESSING 05:54 AM END SOIL PROCESSING 11:47 AM LUNCH START 12:30 PM LUNCH PERTOD 0.5 hr  MORK HOURS 7.2 hr ACTUAL PROCESS HOURS (total 20-sec records) 5.29 hr TOTAL SSTEP PAUS  0.61 hr ACTUAL PROCESS HOUS (total 20-sec records) 5.29 hr START-UP 0.90 hr NONAVAILABLE HOURS 73.0 x SHUT-DOWN 11 hr NONAVAILABLE HOURS 73.0 x SHUT-DOWN 11 hr NONAVAILABLE HOURS 73.0 x SHUT-DOWN 11 hr NONAVAILABLE HOURS 73.0 x SHUT-DOWN 12 hr NONAVAILABLE HOURS 74 hr NONAVAILABLE HOURS 74 hr NONAVAILABLE HOURS 75 hr NONA	MASS TOTAL			0.21 tons	_	
MAXIMUM/SORT   1,572 kBq   43.9 yd   44.0 yd	MAXIMUM/SORT			58.3 kg	58.3 kg	
EQUIVALENT SOIL-IN-GROUND  0.17 yd³ 43.9 yd³ 44.0 yd³/day  PARTICLE ACTIVITY (MAXIMUM ESTIMATE)  TOTAL  MAXIMUM/SORT  BO BQ  MAXIMUM/SORT  MINIMUM/SORT  MAXIMUM/SORT  MAXIMUM/SORT  MAXIMUM/SORT  MAXIMUM/SORT  MORK D+ PARTICLE (REALISTIC ESTIMATE) ACTIVITY  FOR BQ  MAXIMUM/SORT  MORK D+ STATICLE (REALISTIC ESTIMATE) ACTIVITY  MORK D+ STATICLE (REALISTIC ESTIMATE) ACTIVITY  MORK DR BQ  MORK DAY START  MORK DAY ST	MINIMUM/SORT			0.7 kg	55.3 kg	
PARTICLE ACTIVITY (MAXIMUM ESTIMATE)  TOTAL  MIXIMUM/SORT  MORE BODE BODE BODE BODE BODE BODE BODE BOD	WEIGHT RECOVERY OR VOLUME RECOVER	Υ				99.6%
TOTAL  MAXIMUM/SORT  MAXIMUM/SORT  MINIMUM/SORT  MAXIMUM/SORT  MAXIMUM/SORT  MAXIMUM/SORT  MAXIMUM/SORT  MAXIMUM/SORT  MAXIMUM/SORT  MAXIMUM/SORT  MORE DAY START  SPECIFIC ACTIVITY  MORE DAY START  MORE HOURS  MORE DAY START  MORE	EQUIVALENT SOIL-IN-GROUND			0.17 yd³	43.9 yd <sup>3</sup>	44.0 yd3/day
MAXIMUM/SORT 3.0 kBq  DISPERSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY 670 kBq (638)kBq  MAXIMUM/SORT 48 kBq 10 kBq  MAXIMUM/SORT 0 Bq 1-14 kBq  MAXIMUM/SORT 3,191 Bq/kg (12)Bq/kg  WORK DAY START 05:00 AM WORK DAY END 03:30 PM  PLANT START-UP 0 5:00 AM PLANT SMUT-DOWN 12:15 PM  START SOIL PROCESSING 05:54 AM END SOIL PROCESSING 11:47 AM  LUNCH START 12:30 PM LUNCH PERIOD 0.5 hr  WORK HOURS 7.2 hr  ACTUAL PROCESS HOURS (total 20-sec records) 5.29 hr  DOWN-TIME 1.96 hr  TOTAL SYSTEM PAUSE 0.61 hr  WOAN ANAILABLE HOURS 2.8 hr  START-UP 0.90 hr  SMUT-DOWN 0.46 hr  PLANT START-UP 0.90 hr  SMUT-DOWN 0.46 hr  PLANT PERFORMANCE 73.0%  PRODUCTIVITY 52.9%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC) 1,033  NOMPROCESS RECORDS (Test, calibration, etc) 6  20-SEC PROCESS RECORDS (7-SEC and 20-SEC) 1,033  NOMPROCESS RECORDS (Test, calibration, etc) 6  20-SEC PROCESS RECORDS (7-SEC and 20-SEC) 1,033  NOMPROCESS RECORDS (7-SEC and 20-SEC) 1,033  NOMPROCESS RECORDS (7-SEC and 20-SEC) 1,035  NOMPROCESS RECOR	PARTICLE ACTIVITY (MAXIMUM ESTIMA	TE)				
MAXIMUM/SORT 3.0 kBq  DISPERSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY 670 kBq (638)kBq  MAXIMUM/SORT 48 kBq 10 kBq  MAXIMUM/SORT 0 Bq 1-14 kBq  MAXIMUM/SORT 3,191 Bq/kg (12)Bq/kg  WORK DAY START 05:00 AM WORK DAY END 03:30 PM  PLANT START-UP 0 5:00 AM PLANT SMUT-DOWN 12:15 PM  START SOIL PROCESSING 05:54 AM END SOIL PROCESSING 11:47 AM  LUNCH START 12:30 PM LUNCH PERIOD 0.5 hr  WORK HOURS 7.2 hr  ACTUAL PROCESS HOURS (total 20-sec records) 5.29 hr  DOWN-TIME 1.96 hr  TOTAL SYSTEM PAUSE 0.61 hr  WOAN ANAILABLE HOURS 2.8 hr  START-UP 0.90 hr  SMUT-DOWN 0.46 hr  PLANT START-UP 0.90 hr  SMUT-DOWN 0.46 hr  PLANT PERFORMANCE 73.0%  PRODUCTIVITY 52.9%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC) 1,033  NOMPROCESS RECORDS (Test, calibration, etc) 6  20-SEC PROCESS RECORDS (7-SEC and 20-SEC) 1,033  NOMPROCESS RECORDS (Test, calibration, etc) 6  20-SEC PROCESS RECORDS (7-SEC and 20-SEC) 1,033  NOMPROCESS RECORDS (7-SEC and 20-SEC) 1,033  NOMPROCESS RECORDS (7-SEC and 20-SEC) 1,035  NOMPROCESS RECOR				1,572 kBg		
DISPERSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY 670 kBq (638)kBq MAXIMIM/SORT 48 kBq 10 kBq MINIMM/SORT 0 Bq -14 kBq SPECIFIC ACTIVITY 3,191 Bq/kg (12)Bq/kg  LORK HISTORY  MORK DAY START 05:00 AM MORK DAY END 03:30 PH PLANT START-UP 05:00 AM PLANT SMUT-DOWN 12:15 PM START SOIL PROCESSING 05:54 AM END SOIL PROCESSING 11:47 AM LUNCH START 12:30 PM LUNCH PERTOD 0.5 hr  WORK HOURS 7.2 hr ACTUAL PROCESS HOURS (total 20-sec records) 5.29 hr DOWN-TIME 1.96 hr TOTAL SYSTEM PAUSE 0.61 hr NONAVAILABLE HOURS 2.8 hr START-UP 0.90 hr SHUT-DOWN 0.46 hr PLANT PERFORMANCE 73.0% PRODUCTIVITY 52.9%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC) 1,033 NONPROCESS RECORDS (Test, calibration, etc) 6 20-SEC PROCESS RECORDS 953 TOTAL SORT 867 AD=0 & MIDD-0 NO SORT 867 AD=0 & MIDD-0 SCHE SORT 1 B67 AD=0						
MAXIMUM/SORT  MINIMUM/SORT  SPECIFIC ACTIVITY  MORK DAY START  D5:00 AM  MORK DAY START  D5:00 AM  MORK DAY START  D5:00 AM  MORK DAY START  D4:05:55 AM  END SOIL PROCESSING  MORK HOURS  AVAILABLE HOURS  AVAILABLE HOURS  TOTAL SYSTEM PAUSE  MONAVAILABLE HOURS  START-UP  SHUT-DOWN  PLANT START-UP  D0M-TIME  TOTAL SYSTEM PAUSE  MONAVAILABLE HOURS  START-UP  SHUT-DOWN  PLANT SHUT-DOWN  PLANT SHUT-DOWN  D4-6 hr  TOTAL SYSTEM PAUSE  MORK HOURS  START-UP  SHUT-DOWN  PLANT PERFORMANCE  PRODUCTIVITY  D5:2.9%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  TOTAL SOIL PROCESS RECORDS  TOTAL SOIL PROCESS RECORDS  TOTAL SOIL PROCESS RECORDS  TOTAL SOIL PROCESS RECORDS  TOTAL SORT  MOSORT  MOSO	•			•		
MAXIMUM/SORT  MINIMUM/SORT  SPECIFIC ACTIVITY   MORK DAY START  DESCRIPTION  MORK DAY START  DESCRIPTION  MORK DAY START  DESCRIPTION  MORK DAY START  DESCRIPTION  DESCR						
MINIMUM/SORT SPECIFIC ACTIVITY 3,191 Bq/kg (12)Bq/kg  LORK HISTORY  MORK DAY START 05:00 AM MORK DAY END 03:30 PM PLANT START-UP 05:00 AM PLANT SHUT-DOWN 12:15 PM START SOIL PROCESSING 05:54 AM END SOIL PROCESSING 11:47 AM LUNCH START 12:30 PM LUNCH PERIOO 0.5 hr  MORK HOURS 7.2 hr AVAILABLE HOURS 7.2 hr DOWN-TIME 1.96 hr TOTAL SYSTEM PAUSE 0.61 hr START-UP 0.90 hr SHUT-DOWN 0.46 hr START-UP 0.90 hr SHUT-DOWN 0.46 hr PLANT PERFORMANCE 73.0% PRODUCTIVITY 52.9%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC) 1,033 NONPROCESS RECORDS (Test, calibration, etc) 6 20-SEC PROCESS RECORDS (Test,	DISPERSED + PARTICLE (REALISTIC E	STIMATE) ACTIVIT	Y	670 kBq	(638)kBq	
WORK HISTORY	MAXIMUM/SORT '			48 kBq	10 kBq	
MORK HISTORY  MORK DAY START 05:00 AM MORK DAY END 03:30 PM  PLANT START-UP 05:00 AM PLANT SHUT-DOWN 12:15 PM  START SOIL PROCESSING 05:54 AM END SOIL PROCESSING 11:47 AM  LUNCH START 12:30 PM LUNCH PERIOO 0.5 hr   MORK HOURS 10:00 hr  AVAILABLE HOURS 7.2 hr  ACTUAL PROCESS HOURS (total 20-sec records) 5.29 hr  DOMN-TIME 1.96 hr  TOTAL SYSTEM PAUSE 0.61 hr  NONAVAILABLE HOURS 2.8 hr  START-UP 0.90 hr  SHUT-DOWN 0.46 hr  PLANT PERFORMANCE 73:0%  PRODUCTIVITY 52:9%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC) 1,033  NONPROCESS RECORDS (7est, calibration, etc) 6  20-SEC PROCESS RECORDS 953  TOTAL SORT 867 AD=0 & MND=0  NO SORT 867 AD=0 & MD=0 & MND>0  VINEXPLAINED RECORDS 0 1  NO SORT 867 AD=0 & MD=0 & MND>0  VINEXPLAINED RECORDS 0 1  AD=0 & MD=0 0 1  VINEXPLAINED RECORDS 0 11  AD=0 & MD=0 0 TIME TIME TIME 1 TIME	MINIMUM/SORT			0 Bq	-14 kBq	
WORK DAY START   O5:00 AM	SPECIFIC ACTIVITY			3,191 Bq/kg	(12)Bq/k	9
PLANT START-UP 05:00 AM PLANT SHUT-DOWN 12:15 PM START SOIL PROCESSING 05:54 AM END SOIL PROCESSING 11:47 AM LUNCH START 12:30 PM LUNCH PERIOD 0.5 hr  WORK HOURS 10.0 hr AVAILABLE HOURS 7.2 hr AVAILABLE HOURS 7.2 hr DOWN-TIME 1.96 hr TOTAL SYSTEM PAUSE 0.61 hr SHATT-UP 0.90 hr SHUT-DOWN 0.46 hr PLANT PERFORMANCE PRODUCTIVITY 52.9%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC) 1,033 NONPROCESS RECORDS 753 TOTAL SORT 2 MD>0 & MND=0	WORK HISTORY					
START SOIL PROCESSING   05:54 AM   END SOIL PROCESSING   11:47 AM	WORK DAY START	05:00 AM		WORK DAY END	03:30 PM	
LUNCH START   12:30 PM   LUNCH PERIOO   0.5 hr	PLANT START-UP	05:00 AM		PLANT SHUT-DOWN	12:15 PM	
WORK HOURS	START SOIL PROCESSING	05:54 AM		END SOIL PROCESSING	11:47 AM	
AVAILABLE HOURS  ACTUAL PROCESS HOURS (total 20-sec records)  DOWN-TIME  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  START-UP  SHUT-DOWN  PLANT PERFORMANCE  PRODUCTIVITY  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  TOTAL SOIL PROCESS RECORDS  20-SEC PROCESS RECORDS  TOTAL SORT  NO SORT  SOME SORT  UNEXPLAINED RECORDS  0 < AD<1 kBq & MD>0  TIME  AD<0 & MD  TIME  TIME  TIME  AD<0 & MD  TIME	LUNCH START	12:30 PM		LUNCH PERIOD	0.5 hr	
ACTUAL PROCESS HOURS (total 20-sec records)  DOWN-TIME  TOTAL SYSTEM PAUSE  NONAVAILABLE HOURS  START-UP  SHUT-DOWN  PLANT PERFORMANCE  PRODUCTIVITY  DOUGH TOTAL SORT  NONPROCESS RECORDS  TOTAL SORT  NO SORT  SOME SORT  UNEXPLAINED RECORDS  0 <ad<1 &="" kbq="" md=""> 0  1.96 hr  1.96 hr  1.96 hr  1.96 hr  1.96 hr  1.96 hr  1.97 hr  1.98 hr  1</ad<1>	WORK HOURS			10.0 hr		
DOWN-TIME	AVAILABLE HOURS			7.2 hr		
DOMN-TIME	ACTUAL PROCESS HO	URS (total 20-se	c records)	5.29 hr		
NONAVAILABLE HOURS   2.8 hr	DOWN-TIME			1.96 hr		
START-UP   0.90 hr	TOTAL SYSTEM PAUS	E		0.61 hr		
SHUT-DOWN PLANT PERFORMANCE PLANT PERFORMANCE PRODUCTIVITY  52.9%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC) 1,033 NONPROCESS RECORDS (7est, calibration, etc) 20-SEC PROCESS RECORDS TOTAL SORT 20-SEC PROCESS RECORDS 953 TOTAL SORT 20-SEC PROCESS RECORDS	NONAVAILABLE HOUR	s		2.8 hr		
PLANT PERFORMANCE 73.0% PRODUCTIVITY 52.9%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC) 1,033  NONPROCESS RECORDS (Test, calibration, etc) 6  20-SEC PROCESS RECORDS 953  TOTAL SORT 2 MD>0 & MND=0  NO SORT 867 AD=0 & MD=0 & MND>0  O <ad<1kbq &="" md="">0 1  AD=0 &amp; MD 0 1  UNEXPLAINED RECORDS 0  AD=0 &amp; MD 0 1  UNEXPLAIN PAUSE AD=0 &amp; MD=0 &amp;</ad<1kbq>	START-UP			0.90 hr		
PRODUCTIVITY 52.9%  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC) 1,033  NONPROCESS RECORDS (Test, calibration, etc) 6  20-SEC PROCESS RECORDS 953  TOTAL SORT 2 MD>0 & MND=0  NO SORT 867 AD=0 & MD=0 & MND>0  SOME SORT 84 AD>0&0	SHUT-DOWN			0.46 hr		
TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  NONPROCESS RECORDS (Test, calibration, etc)  20-SEC PROCESS RECORDS  TOTAL SORT  NO SORT  SOME SORT  UNEXPLAINED RECORDS  0 < AD<0 & MD > 0  TIME  AD<0 & MD  TIME  TIME  AD<0 & MD  TIME  TIME  AD<0 & MD  TIME  TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC)  1,033  6  2 MD > 0  8 MD > 0  MND > 0  TIME  TIME  TIME  10:57:54  06:15	PLANT PERFORMANCE			73.0%		
NONPROCESS RECORDS (Test, calibration, etc)	PRODUCTIVITY			52.9%		
NONPROCESS RECORDS (Test, calibration, etc)	TOTAL SOIL PROCESSING RECORDS (2-	SEC and 20-SEC)		1,033		
20-SEC PROCESS RECORDS  TOTAL SORT  NO SORT  SOME SORT  UNEXPLAINED RECORDS  0 < AD < 1 kBq & MD > 0  AD < 0 & MD  UNEXPLAIN PAUSE  AD < 0 & MD  O & M						
TOTAL SORT  NO SORT  867 AD=0 & MD=0 & MND>0  SOME SORT  84 AD>0&0 <md<mndmax&mnd<mndmax &="" 0<ad<1kbq="" md="" records="" unexplained="">0  1  AD=0 &amp; MD  0  1  10:57:54  10:57:54</md<mndmax&mnd<mndmax>		-		953		
NO SORT       867 AD=0 & MD=0 & MND>0         SOME SORT       84 AD>0&0 < MD < MND max & MND max				2 MD>0 & MND=0		
UNEXPLAINED RECORDS 0  0 < AD < 1 kBq & MD > 0				867 AD=0 & MD=0 &	MND>0	
UNEXPLAINED RECORDS 0  0 < AD < 1	SOME SORT			84 AD>0&0 <md<mnd< td=""><td>max&amp;MND<mndmax< td=""><td></td></mndmax<></td></md<mnd<>	max&MND <mndmax< td=""><td></td></mndmax<>	
0 <ad<1kbq &="" md="">0       1       UNEXPLAIN PAUSE         AD=0 &amp; MD       0       TIME       TIME         AD&lt;0 &amp; MD</ad<1kbq>		os		0		
AD=0 & MD 0 TIME TIME AD<0 & MD 0 10:57:54 06:15					UNEXPLAIN	PAUSE
	·	MD 0			TIME	TIME
ACT_P <5 kBq 9 11.3% . 06:35	AD<0 &	MD 0			10:57:54	06:15
	ACT_P <5 kBq	9 11	1.3%		•	06:35

2-SEC COUNT PERIODS						9,530	1					07:26
		2-SEC RECORD	S WITH S	ORTS		80	(ACT_P	>0 kBq	)			08:12
		2-SEC RECORD	S WITH P	OSITIVES	IN >1 DE	TECTOR						
		2	DETECTO	RS	20		74.1%					
		3	DETECTO	RS	6		22.2%					
		4	DETECTO	RS	1		3.7%					
		5	DETECTO	RS	0		0.0%					
		6	DETECTO	RS	0		0.0%					
		7	DETECTO	RS	0		0.0%					
		8	DETECTO	RS	0		0.0%					
		T	OTAL			27	•					
		NET 2-SEC RE	CORDS WI	TH SORTS		53	;					
		2-SEC PERIOD	S WITH N	O SORTS		9,477	•					
		AVG TIME BET	WEEN 2-S	EC SORTS		359.6	sec					
1-GATE S	21002	44	ACT_ND	MIMRED	SPEC_A		A	CT_P	SORT	FREQ%	ACT_P	
DETECTR		FREQ%	(Bq)		(Bq/kg)			(Bq)	(#)		(k8q)	
DETECTA	301(13	11114	(64)	(#/	(pd) va)			(-4)	\ <i>\</i>		, ,	
1	0	0.0%	-14000	0	-240			4000	3	3.8%	4	
2	9	20.5%	-12000	8	-206		;	8000	29	36.3%	8	
3	8	18.2%	-10000	4	-172		1	2000	13	16.3%	12	
4	7	15.9%	-8000	7	-137		1	6000	6	7.5%	16	
5	7	15.9%	-6000	20	-103		2	0000	6	7.5%	20	
6	6	13.6%	-4000	75	-69		2	4000	2	2.5%	24	
7	6	13.6%	-2000	196	-34		2	8000	2	2.5%	28	
8	1	2.3%	0	254	0		3	2000	3	3.8%	32	
TOTAL	44		2000	216	34		3	6000	2	2.5%	36	
			4000	125	69		4	0000	1	1.3%	40	
2-GATE S	SORTS	36	6000	42	103		4	4000	1	1.3%	44	
DETECTR	SORTS	FREQ%	8000	10	137		4	8000	1	1.3%	48	
8			10000	1	172		5	2000	1	1.3%	52	
9	3	8.3%	12000	1	206		5	6000	3	3.8%	56	
10	7	19.4%	14000	0	240		6	0000	2	2.5%	60	
11	5	13.9%	16000	0	274		6	4000	1	1.3%	64	
12	8	22.2%	18000	0	309		6	8000	1	1.3%	68	
13	7	19.4%	20000	0	343		7	2000	0	0.0%	72	
14	5	13.9%	22000	0	377		7	6000	2	2.5%	76	
15	1	2.8%	24000	0	412		8	0000	0	0.0%	80	
TOTAL	36		26000	0	446		8	4000	1	1.3%	84	
			>28000	0	0		>8	4000	0	0.0%	>84	
			TOTAL	959			T	OTAL	80			
SUMMARY	TOTALS											
ŀ	HOT PART	ICLE EVENTS	77				ATE ONLY		44			
ŧ	HULTIPAR1	TICLE EVENTS	55		SORTS BY	TWO G	ATES		36			
τ	DISTRIBUT	TED EVENTS	157									

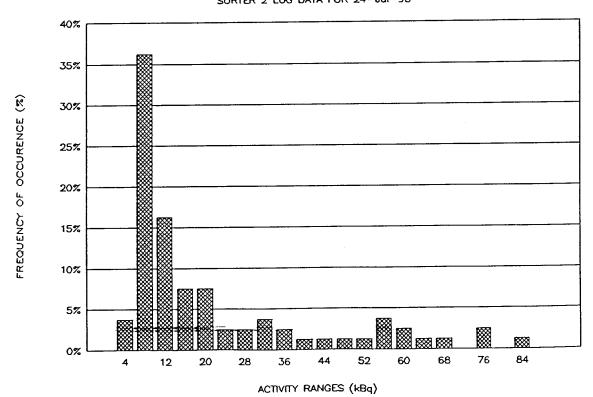
### REC CODE EXPLANATION

- 1.00 Source check (Soil on belt)
- 2.00 Empty belt
- 3.00 Test (No process soil)

SORTER 2 LOG DATA FOR 24-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES SORTER 2 LOG DATA FOR 24-Jul-93



SORTER 1 26-Jul-93									
AVERAGE BACKGROUND COUNT RAT	re	0.72	t	0.04	c/sec				
SORTER SOIL DENSITY			tons/m						
GROUND SOIL DENSITY			ons/m						
					CONTAM	INATED	CLEAN		
MASS TOTAL					0.23	tons	90.2	tons	
MAXIMUM/SORT					4.4	kg	58.2	kg	
MINIMUM/SORT					0.7	kg	53.9	kg	
WEIGHT RECOVERY OR VOLUME RE	COVERY								99.8%
EQUIVALENT SOIL-IN-GROUND					0.18	vd3	71.5	yd³	71.7 yd <sup>3</sup> /day
					••••	,-		,-	, , , , , , , , , , , , , , , , , , , ,
PARTICLE ACTIVITY (MAXIMUM E	STIMATE)								
TOTAL					4,150	kBq			
MAXIMUM/SORT					312	k8q			
MINIMUM/SORT					3.5	kBq			
DISPERSED + PARTICLE (REALIS	TIC ESTIMATE) ACTIV	ITY			1,450	k8q	3,136	kBq	
MAXIMUM/SORT	•				190	kBq	12	kBq	
MINIHUM/SORT					0	Bq	-7	kBq	
SPECIFIC ACTIVITY					6,428	Bq/kg	35	Bq/kg	
WORK HISTORY									
WORK DAY START	05:00 AM				WORK DA	Y END	03:30 PM		
PLANT START-UP	05:00 AM					HUT-DOWN	03:30 PM		
START SOIL PROCESSING						L PROCESSING			
LUNCH START	11:30 AM				LUNCH P		0.5	hr	
WORK HOURS						10.0 hr			
AVAILABLE HO	URS					10.0 hr			
	SS HOURS (total 20-	sec rec	ords)			8.63 hr			
DOWN-TIME						1.37 hr			
TOTAL SYSTEM						0.89 hr			
NONAVAILABLE	HOURS					0.0 hr			
START-UP						0.66 hr			
SHUT-DOWN						0.30 hr			
PLANT PERFORI						86.3%			
PR00UCTIVITY						86.3%			
TOTAL SOIL PROCESSING RECORDS	S (2-SEC and 20-SEC)	)				1,783			
NONPROCESS RECORDS (Test, ca						11			
20-SEC PROCESS RECORDS	S				1,553				
TOTAL SORT						0=DMM & 0 <dm< td=""><td></td><td></td><td></td></dm<>			
NO SORT					•	AD=0 & MD=0 8			
SOME SORT						AD>0&0 <md<mn0< td=""><td>max&amp;MND<mn< td=""><td>Omax</td><td></td></mn<></td></md<mn0<>	max&MND <mn< td=""><td>Omax</td><td></td></mn<>	Omax	
UNEXPLAINED F					0				
0 <ad<1kbq &="" 1<="" td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>UNEXPLAIN</td><td></td><td>AUSE</td></ad<1kbq>							UNEXPLAIN		AUSE
	0						TIME		TIME
AL.	0 CM & 0>0						11:09:54		11:32

File S1JA0726.WR1

ACT\_P <5 kBq

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48 20.9%

15,530

2 SEC COOM! PERIODS						15,550						
			2-SEC RECORD	S WITH S	ORTS		230	(ACT_P	>0 kBq)			
			2-SEC RECORD	S WITH P	OSITIVES	IN >1 DE	TECTOR	•				
			2	DETECTO	RS	51		89.5%				
			3	DETECTO	RS	6		10.5%				
			4	DETECTO	RS	0		0.0%				
			5	DETECTO	RS	0		0.0%				
			6	DETECTO	RS	0		0.0%				
			7	DETECTO	RS	0		0.0%				
			8	DETECTO	RS	0		0.0%				
			T	OTAL			57					
			NET 2-SEC RE	CORDS WI	TH SORTS		173					
			2-SEC PERIOD	S WITH N	O SORTS		15,357					
			AVG TIME BET	WEEN 2-S	EC SORTS		179.5	sec				
	1-GATE SO	ORTS	125	ACT_ND	NUMBER	SPEC_A			ACT_P	SORT	FREQX	ACT_P
	DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)			(Bq)	(#)		(kBq)
	1	1	0.8%	-14000	0	-241			4000	13	5.7%	4
	2	7	5.6%	-12000	1	-206			8000	98	42.6%	8
	3	13	10.4%	-10000	1	-172		•	12000	40	17.4%	12
	4	18	14.4%	-8000	2	-137		•	16000	18	7.8%	16
	5	30	24.0%	-6000	4	-103		:	20000	18	7.8%	20
	6	28	22.4%	-4000	25	-69			24000	7	3.0%	24
	7	20	16.0%	-2000	106	-34		7	28000	5	2.2%	28
	8	8	6.4%	0	231	0		3	32000	2	0.9%	32
	TOTAL	125		2000	414	34		3	36000	1	0.4%	<b>3</b> 6
				4000	417	69		4	0000	0	0.0%	40
	2-GATE SC	ORTS	105	6000	248	103		4	44000	1	0.4%	44
	DETECTR	SORTS	FREQ%	8000	93	137		4	0008	4	1.7%	48
	8			10000	19	172		9	2000	2	0.9%	52
	9	2	1.9%	12000	2	206		9	6000	2	0.9%	56
	10	9	8.6%	14000	1	241		6	0000	7	3.0%	60
	11	10	9.5%	16000	0	275		ć	4000	1	0.4%	64
	12	21	20.0%	18000	0	309		6	0008	1	0.4%	68
	13	33	31.4%	20000	0	344		7	2000	2	0.9%	72
	14	17	16.2%	22000	0	378		7	76000	2	0.9%	76

### SUMMARY TOTALS

15

TOTAL

13

105

HOT PARTICLE EVENTS	223	SORTS BY ONE GATE ONLY	125
MULTIPARTICLE EVENTS	85	SORTS BY TWO GATES	105
DISTRIBUTED EVENTS	0		

1564

0

0

0

412

447

0

### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

12.4% 24000

26000

>28000

TOTAL

2.00 Empty belt

2-SEC COUNT PERIODS

3.00 Test (No process soil)

1 0.4%

2 0.9%

3 1.3%

230

80000

84000

>84000

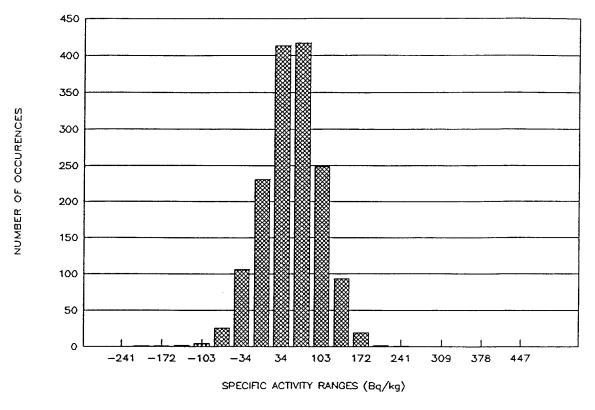
TOTAL

80

84

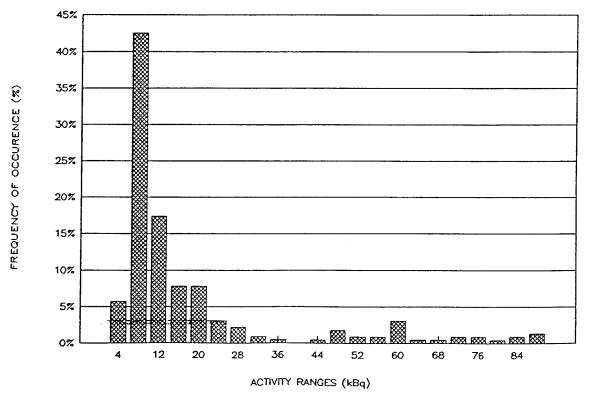
>84

SORTER 1 LOG DATA FOR 26-Jul-93



## JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 1 LOG DATA FOR 26-Jul-93



SORTER 2 26-Jul-93				
AVERAGE BACKGROUND COUNT RATE	0.78 ±	0.04 c/sec		ì
SORTER SOIL DENSITY	1.3 tons/m			
GROUND SOIL DENSITY	1.65 tons/m			
arooms sole sensiti	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	CONTAMINATED	CLEAN	
MASS TOTAL		0.21 tons	89.8 ton	s
MAXIMUM/SORT		3.6 kg	58.3 kg	
MINIMUM/SORT		0.7 kg	54.6 kg	
WEIGHT RECOVERY OR VOLUME RECOVE	RY			99.8%
EQUIVALENT SOIL-IN-GROUND		0.17 yd <sup>3</sup>	71.2 yd³	71.3 yd³/day
•				
PARTICLE ACTIVITY (MAXIMUM ESTIM	ATE)			
TOTAL		4,597 kBq		
MAXIMUM/SORT		297 kBq		
MINIMUM/SORT		3.7 kBq		
		4 FF7 to:	1 7C0 LD.	
DISPERSED + PARTICLE (REALISTIC	ESTIMATE) ACTIVITY	1,557 kBq 161 kBq	1,358 kBq 11 kBq	
MAXIMUM/SORT		0 Bq	-11 kBq	
MINIMUM/SORT		7,243 Bq/kg	15 Bq/1	<b>(</b> 0
SPECIFIC ACTIVITY		1,245 pd/kg	15 547	<b>`</b> 5
WORK HISTORY				
WORK DAY START	05:00 AM	WORK DAY END	03:30 PM	
PLANT START-UP	05:00 AM	PLANT SHUT-DOWN	03:30 PM	
START SOIL PROCESSING	05:40 AM	END SOIL PROCESSING	03:10 PM	
LUNCH START	11:30 AM	LUNCH PERIOD	0.5 hr	
WORK HOURS		10.0 hr		
AVAILABLE HOURS		10.0 hr		
ACTUAL PROCESS H	OURS (total 20-sec records)	8.58 hr		
DOWN-TIME		1.42 hr		
TOTAL SYSTEM PAU		0.90 hr		
NONAVAILABLE HOU	RS	0.0 hr		
START-UP		0.68 hr		
SHUT-DOWN		0.33 hr		
PLANT PERFORMANCE	<b>E</b>	85.8%		
PRODUCTIVITY		85.8%		
TOTAL SOIL PROCESSING RECORDS (2	-SEC and 20-SEC)	1,752		
NONPROCESS RECORDS (Test, calibration)		19		
20-SEC PROCESS RECORDS	action, etc)	1,544		
TOTAL SORT		0 MD>0 & MND=0		
NO SORT		1,380 AD=0 & MD=0 &	MND>0	
SOME SORT		164 AD>0&0 <md<mnd< td=""><td></td><td>(</td></md<mnd<>		(
UNEXPLAINED RECO	RDS	0		
0 <ad<1kbq &="" md="">0</ad<1kbq>	1		UNEXPLAIN	PAUSE
AD=0			TIME	TIME
AD<0 8			14:00:31	08:59
ACT_P <5 kBq	16 7.7%			11:32
<b>-</b>				

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15,440

2-SEC RECORDS WITH SORTS 208 (ACT\_P >0 kBq)

		2-2EC KECOKI	2 MIIH 2	OK 12		200	(ACI_F	> >0 KBd)			
		2-SEC RECORD	S WITH P	POSITIVES	IN >1 DE	ETECTOR					
		2	DETECTO	ORS	47		85.5%				
		3	DETECTO	RS	6		10.9%				
		4	DETECTO	ЖS	2		3.6%				
		5	DETECTO	RS	0		0.0%				
		6	DETECTO	RS	0		0.0%				
		7	DETECTO	RS	0		0.0%				
		8	DETECTO	RS	0		0.0%				
		1	OTAL			55					
		NET 2-SEC RE	CORDS WI	TH SORTS		153					
		2-SEC PERIOD	S WITH N	O SORTS		15,287					
		AVG TIME BET	WEEN 2-S	EC SORTS		201.8	sec				
1-GATE	E SORTS	105	ACT_ND	NUMBER	SPEC_A			ACT_P	SORT	FREQ%	ACT_P
DETECT	TR SORTS	FREQ%	(Bq)	(#)	(Bq/kg)			(Bq)	(#)		(kBq)
1	1 3	2.9%	-14000	2	-240			4000	3	1.4%	4
	2 16		-12000	3	-206			8000	71	34.1%	8
	3 17		-10000	2	-172			12000	43	20.7%	12
4		21.9%	-8000	3	-137			16000	23	11.1%	16
5	5 22	21.0%	-6000	14	-103			20000	9	4.3%	20
6	5 13	12.4%	-4000	55	-69			24000	10	4.8%	24
7	7 10	9.5%	-2000	181	-34			28000	7	3.4%	28
8	3 1	1.0%	0	346	0			32000	4	1.9%	32
TOTAL	_ 105		2000	444	34			36000	2	1.0%	36
			4000	299	69			40000	3	1.4%	40
2-GATE	SORTS	103	6000	141	103			44000	3	1.4%	44
DETECT	rr sorts	FREQ%	8000	58	137			48000	3	1.4%	48
8	3		10000	14	172			52000	1	0.5%	52
9	7 10	9.7%	12000	1	206			56000	6	2.9%	56
10	) 15	14.6%	14000	0	240			60000	4	1.9%	60
11	1 21	20.4%	16000	0	274			64000	1	0.5%	64
12	2 24	23.3%	18000	0	309			68000	2	1.0%	68
13	18	17.5%	20000	0	343			72000	0	0.0%	72
14	9	8.7%	22000	0	377			76000	4	1.9%	76
15	6	5.8%	24000	0	412			80000	1	0.5%	80
TOTAL	. 103		26000	0	446			84000	0	0.0%	84
			>28000	0	0		>	84000	8	3.8%	>84
			TOTAL	1563				TOTAL	208		
SUMMAR	Y TOTALS										
		CLE EVENTS	208		SORTS BY			Y	105		
		ICLE EVENTS	87		SORTS BY	TWO GA	ITES		103		
	DISTRIBUT	ED EVENTS	0								

### REC CODE EXPLANATION

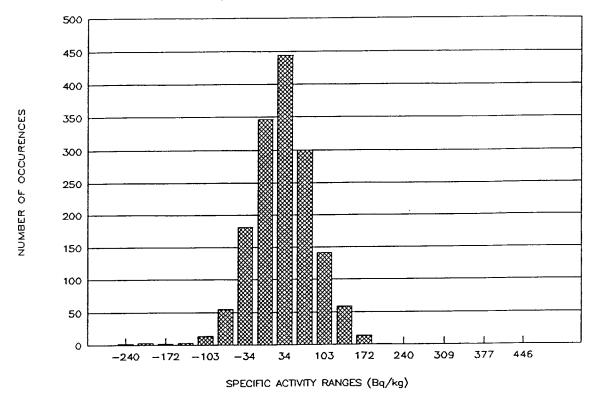
1.00 Source check (Soil on belt)

2.00 Empty belt

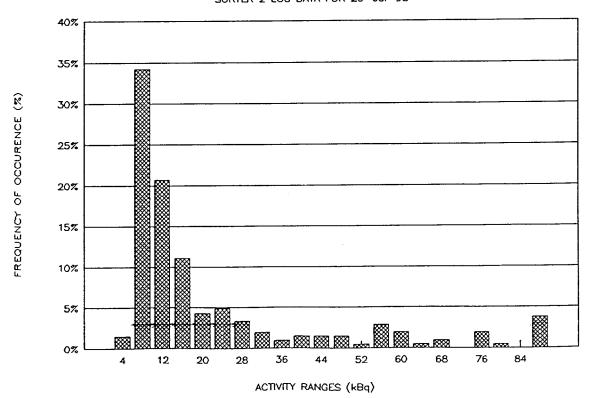
2-SEC COUNT PERIODS

3.00 Test (No process soil)

SORTER 2 LOG DATA FOR 26-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES SORTER 2 LOG DATA FOR 26-Jul-93



151

SORTER 1 27-Jul-93					
AVERAGE BACKGROUND COUNT RATE	0.74	± 0.04 c/sec			
SORTER SOIL DENSITY	1.3 ton:	s/m³			
GROUND SOIL DENSITY	1.65 tons	s/m³			
		CONTAMINATED	CLEAN		
MASS TOTAL		0.23 tons	81.5 ton	s	
MAXIMUM/SORT		3.6 kg	58.2 kg		
MINIMUM/SORT		0.7 kg	54.6 kg		
WEIGHT RECOVERY OR VOLUME RECOVERY				99.7%	
EQUIVALENT SOIL-IN-GROUND		0.18 yd³	64.6 yd³	64.8 yd³/day	
PARTICLE ACTIVITY (MAXIMUM ESTIMATE	E)				
TOTAL		3,856 kBq			
MAXIMUM/SORT		128 kBq			
MINIMUM/SORT		3.2 kBq			
		•			
DISPERSED + PARTICLE (REALISTIC EST	IMATE) ACTIVITY	1,323 k8q	(749)kBq		
MAXIMUM/SORT		73 kBq	9 k8q		
MINIMUM/SORT		0 Bq	-11 kBq		
SPECIFIC ACTIVITY		5,701 Bq/kg	(9)Bq/I	(g	
WORK HISTORY					
WORK DAY START	05:00 AM	WORK DAY END	03:30 PM		
PLANT START-UP	05:00 AM	PLANT SHUT-DOWN	03:30 PM		
START SOIL PROCESSING	05:21 AM	END SOIL PROCESSING	03:17 PM		
LUNCH START	11:30 AM	LUNCH PERIOD	0.5 hr		
WORK HOURS		10.0 hr			
AVAILABLE HOURS		10.0 hr			
ACTUAL PROCESS HOUR	S (total 20-sec records				
DOWN-TIME		2.20 hr			
TOTAL SYSTEM PAUSE		2.07 hr			
NONAVAILABLE HOURS		0.0 hr			
START-UP		0.36 hr			
SHUT-DOWN		0.22 hr			
PLANT PERFORMANCE		78.0%			
PRODUCTIVITY		78.0%			
TOTAL SOIL PROCESSING RECORDS (2-SEC	and 20-SEC)	1,627			
NONPROCESS RECORDS (Test, calibratio	on, etc)	30			
20-SEC PROCESS RECORDS		1,404			
TOTAL SORT		0=0MM & 0<0M 0			•
NO SORT		1,239 AD=0 & MD=0 &	MND>0		
SOME SORT		165 AD>0&0 <md<mndm< td=""><td>nax&amp;MND<mndmax< td=""><td></td><td></td></mndmax<></td></md<mndm<>	nax&MND <mndmax< td=""><td></td><td></td></mndmax<>		
UNEXPLAINED RECORDS		0			
0 <ad<1kbq &="" md="">0</ad<1kbq>	1		UNEXPLAIN	PAUSE	
AD=0 & MD			TIME	TIME	
AD<0 & MD			15:07:01	08:56	
ACT_P <5 kBq	34 15.2%			09:57	

File S1JA0727.WR1

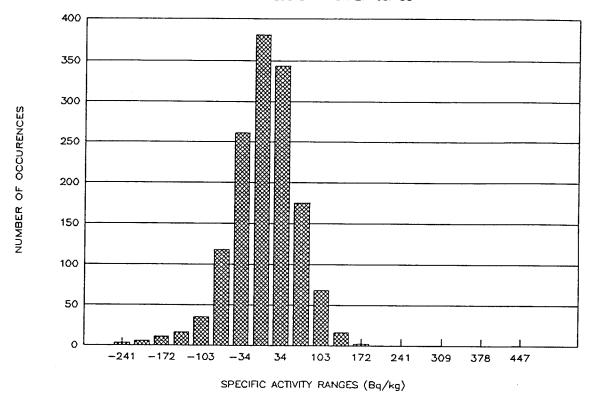
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	2-SEC (	COUNT PERIODS				14,040					11:27
		2-SEC RECOR	DS WITH S	ORTS		223	(ACT_P >0 ki	Bq)			15:00
		2-SEC RECOR	DS WITH P	OSITIVES	IN >1 D	ETECTOR	_				
			2 DETECTO	RS	53		88.3%				
			3 DETECTO	RS	6		10.0%				
			4 DETECTO		1		1.7%				
	•		5 DETECTO		0		0.0%				
			6 DETECTO	RS	0		0.0%				
			7 DETECTO		0		0.0%				
			8 DETECTO		0		0.0%				
			TOTAL			60					
		NET 2-SEC R		TH SORTS		163					
		2-SEC PERIO	S WITH N	O SORTS		13,877					
		AVG TIME BE				172.3	sec				
1-GATE	SORTS	108	ACT_ND	NUMBER	SPEC_A		ACT_P	SORT	FREQ%	ACT_P	
DETECT			_ (Bq)		(Bq/kg)		_ (Bq)	(#)		(kBq)	
1		1 0.9%	-14000	3	-241		4000	7	3.1%	4	
2		9 8.3%		5	-206		8000	95	42.6%	8	
3		9 17.6%	-10000	11	-172		12000	33	14.8%	12	
4	. 1	7 15.7%	-8000	16	-137		16000	25	11.2%	16	
5	2	3 21.3%	-6000	35	-103		20000	11	4.9%	20	
6	. 1	7 15.7%	-4000	118	-69		24000	4	1.8%	24	
7	1	6 14.8%	-2000	261	-34		28000	9	4.0%	28	
8		6 5.6%	0	381	0		32000	6	2.7%	32	
TOTAL	10	8	2000	343	34		36000	3	1.3%	36	
			4000	175	69		40000	1	0.4%	40	
2-GATE	SORTS	115	6000	68	103		44000	2	0.9%	44	
DETECT	R SORT	S FREQ%	8000	16	137		48000	3	1.3%	48	
8			10000	2	172		52000	4	1.8%	52	
9		4 3.5%	12000	0	206		56000	3	1.3%	56	
10	1-	4 12.2%	14000	0	241		60000	8	3.6%	60	
11	2	7 23.5%	16000	0	275		64000	2	0.9%	64	
12	2	1 18.3%	18000	0	309		68000	0	0.0%	68	
13	2	5 21.7%	20000	0	344		72000	2	0.9%	72	
14	1	2 10.4%	22000	0	378		76000	1	0.4%	76	
15	13	2 10.4%	24000	0	412		80000	0	0.0%	80	
TOTAL	11:	5	26000	0	447		84000	1	0.4%	84	
			>28000	0	0		>84000	3	1.3%	>84	
			TOTAL	1434			TOTAL	223			
SUMMAR	Y TOTALS										
	HOT PAR	TICLE EVENTS	232		SORTS BY	ONE GA	TE ONLY	108			
	MULTIPA	RTICLE EVENTS	86		SORTS BY	TWO GA	TES	115			
	DISTRIB	JTED EVENTS	0								

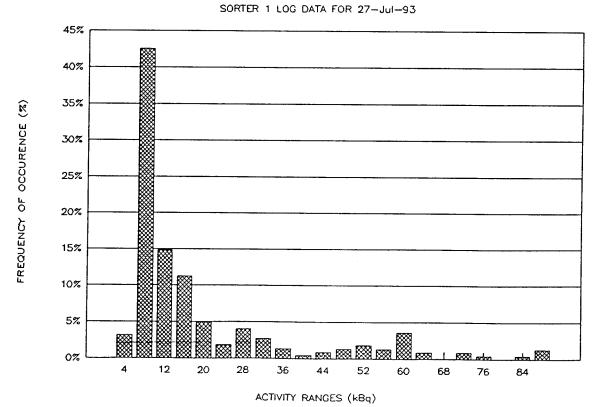
### REC CODE EXPLANATION

- 1.00 Source check (Soil on belt)
- 2.00 Empty belt
- 3.00 Test (No process soil)

SORTER 1 LOG DATA FOR 27-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES



SORTER 2 27-Jul-93				
AVERAGE BACKGROUND COUNT RATE	0.77 ± 0.	04 c/sec		
SORTER SOIL DENSITY	1.3 tons/m³			
GROUND SOIL DENSITY	1.65 tons/m³			
		CONTAMINATED	CLEAN	
MASS TOTAL		0.26 tons	82.9 ton	S
MAXIMUM/SORT		7.3 kg	58.3 kg	
MINIMUM/SORT		0.7 kg	51 kg	
VELOUE DECOVERY OF VOLUME DECOVERY				99.7%
WEIGHT RECOVERY OR VOLUME RECOVERY		0.21 yd³	65.7 yd³	
EQUIVALENT SOIL-IN-GROUND		0.21 70	os ,c	
PARTICLE ACTIVITY (MAXIMUM ESTIMATE	`			
TOTAL TOTAL	•	14,097 kBq		
MAXIMUM/SORT		4,469 kBq		
MINIMUM/SORT		3.0 kBq		
MINIMUM/ SORT		•••		
DISPERSED + PARTICLE (REALISTIC EST	IMATE) ACTIVITY	4,524 kBq	1,126 kBq	
MAXIMUM/SORT		2631 kBq	18 kBq	
MINIMUM/SORT		0 Bq	-14 kBq	
SPECIFIC ACTIVITY		17,220 Bq/kg	14 Bq/	kg
WORK HISTORY				
WORK DAY START	05:00 AM	WORK DAY END	03:30 PM	
PLANT START-UP	05:00 AM	PLANT SHUT-DOWN	03:30 PM	
START SOIL PROCESSING	05:21 AM	END SOIL PROCESSING	03:21 PM	
LUNCH START	11:30 AM	LUNCH PERIOD	0.5 hr	
WORK HOURS		10.0 hr		
AVAILABLE HOURS		10.0 hr		
ACTUAL PROCESS HOUR	S (total 20-sec records)	7.93 hr		
DOWN-TIME		2.07 hr		
TOTAL SYSTEM PAUSE		2.06 hr		
NONAVAILABLE HOURS		0.0 hr		
START-UP		0.36 hr		
SHUT-DOWN		0.15 hr		
PLANT PERFORMANCE		79.3%		
PRODUCTIVITY		79.3%		
TOTAL SOIL PROCESSING RECORDS (2-SE	C and 20-SEC)	1,676		
NONPROCESS RECORDS (Test, calibrati		. 8		
20-SEC PROCESS RECORDS	,	1,427		
TOTAL SORT		0 MD>0 & MND=0		
NO SORT		1,242 AD=0 & MD=0 &	MND>0	
SOME SORT		185 AD>0&0 <md<mn0< td=""><td></td><td>x</td></md<mn0<>		x
UNEXPLAINED RECORDS		0		
0 <ad<1kbq &="" md="">0</ad<1kbq>	0	-	UNEXPLAIN	PAUSE
AD=0 & M			TIME	TIME
AD<0 & P			None	08:56
ACT_P <5 kBq	34 13.7%			09:57
voi L 2 Kpd	2			

File S2JA0727.WR1

Printed on 07/28/93 at 10:44:53 AM

14,270

		2-SEC RECORD	S WITH S	ORTS		24	9 (ACT_F	>0 kBc	1)			
		2-SEC RECORD	S WITH P	OSITIVES	IN >1 DE		_					
		7	2 DETECTO	RS	67		77.9%					
		3	DETECTO	RS	12		14.0%					
		4	DETECTO	RS	4		4.7%					
			DETECTO	RS	3		3.5%					
		6	DETECTO	RS	0		0.0%					
		7	DETECTO	RS	0		0.0%					
		8	B DETECTO	RS	0		0.0%					
		1	TOTAL			8	6					
		NET 2-SEC RE	CORDS WI	TH SORTS		16	3					
		2-SEC PERIOD	S WITH N	O SORTS		14,10	7					
		AVG TIME BET	WEEN 2-S	EC SORTS		175.	1 sec					
1-GATE	SORTS	125	ACT_ND	NUMBER	SPEC_A			ACT_P	SORT	FREQ%	ACT_P	
DETECTR		FREQ%	(Bq)		(Bq/kg)			(Bq)	(#)		(kBq)	
1	4	3.2%	-14000	0	-240			4000	14	5.6%	4	
. 2	12	9.6%	-12000	4	-206			8000	82	32.9%	8	
3	16	12.8%	-10000	1				12000	46	18.5%	12	
4	28	22.4%	-8000	13	- 137			16000	31	12.4%	16	
5	25	20.0%	-6000	64	-103			20000	13		20	
6	26	20.8%	-4000	156	-69			24000	5	2.0%	24	
7	13	10.4%	-2000	234	-34			28000	7	2.8%	28	
8	1	0.8%	0	197	0			32000	2		<b>3</b> 2	
TOTAL	125		2000	171	34			36000	6	2.4%	36	
_			4000	178	69			40000	3		40	
2-GATE S		124	6000	208	103			44000	0		44	
DETECTR	SORTS	FREQ%	8000	131	137			48000	2	0.8%	48	
8			10000	60	172			52000	3	1.2%	52	
9	8	6.5%	12000	13	206			56000	3		56	
10	11	8.9%	14000	3	240			60000	2	0.8%	60	
11	24	19.4%	16000	1	274			64000	3	1.2%	64	
12 13	24 27	19.4%	18000	0 1	309			68000	1	0.4%	68 73	
14	21	21.8% 16.9%	20000 22000	0	343 377			72000	3	1.2%	72 76	
15	9	7.3%	24000	0	412			76000 80000	5 2	2.0% 0.8%	80	
	124	1.3%	26000	_	446			84000	_		84	
TOTAL	124		>28000	0	440			84000	1 15	0.4% 6.0%	>84 >84	
			TOTAL	1435	3			TOTAL	249	0.0%	- 04	
SUMMARY	TOTALS		TOTAL	.433				TOTAL	L-77			
		CLE EVENTS	239		SORTS BY	ONE (	GATE ONL	Y	125			
		ICLE EVENTS	122		SORTS BY				124			
		ED EVENTS	0									

### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

2.00 Empty belt

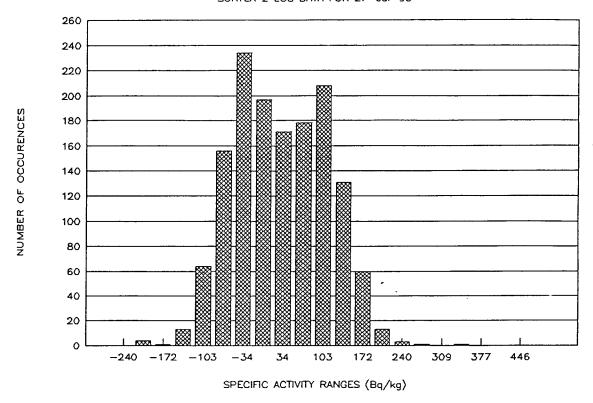
2-SEC COUNT PERIODS

3.00 Test (No process soil)

File S2JA0727.WR1

11:27

SORTER 2 LOG DATA FOR 27-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES SORTER 2 LOG DATA FOR 27-Jul-93

35% 30% FREQUENCY OF OCCURENCE (%) 25% 20% 15% 10% 5% 20 12 28 52 60 68 84 ACTIVITY RANGES (kBq)

SORTER 1	28-Jul-93				
AVERAGE BACKGRO	OUND COUNT RATE	0.76 ±	0.05 c/sec		
SORTER SOIL DEN		1.3 tons/	•		
GROUND SOIL DEN	ISITY	1.65 tons/	m <sub>2</sub>		
			CONTAMINATED	CLEAN	
MASS TOTAL			0.28 tons	89.1 tons	
MAXIMUM	SORT		4.4 kg	58.2 kg	
MINIMUM	SORT		0.7 kg	53.9 kg	
WEIGHT RECOVERY	OR VOLUME RECOVERY				99.7%
EQUIVALENT SOIL			0.22 yd³	70.6 yd³	70.8 yd3/day
DADTICLE ACTIVI	TV (MAVIMIM COTIMAT	E1			
TOTAL	TY (MAXIMUM ESTIMAT	τ,	5,591 kBq		
MAXIMUM/	SORT		229 kBq		
MINIMUM			3.1 kBq		
DISPERSED + PAR	TICLE (REALISTIC ES	TIMATE) ACTIVITY	1,904 kBq	(730)kBq	
MAXIMUM/	SORT		154 kBq	11 kBq	
MINIMUM/			0 Bq	-10 kBq	
SPECIFIC	ACTIVITY		6,798 Bq/kg	(8)Bq/kg	
WORK HISTORY					
WORK DAY	START	05:00 AM	WORK DAY END	03:30 PM	
PLANT ST	ART-UP	05:00 AM	PLANT SHUT-DOWN	03:30 PM	
	IL PROCESSING	05:27 AM	END SOIL PROCESSING		
LUNCH ST	ART	11:30 AM	LUNCH PERIOD	0.5 hr	
	WORK HOURS		10.0 hr		
	AVAILABLE HOURS		10.0 hr		
	ACTUAL PROCESS HOU	RS (total 20-sec records)	8.53 hr		
	DOWN-TIME		1.47 hr		
	TOTAL SYSTEM PAUSE		1.14 hr		
	NONAVAILABLE HOURS		0.0 hr		
	START-UP		0.47 hr		
	SHUT-DOWN		0.31 hr 85.3%		
	PLANT PERFORMANCE PRODUCTIVITY		85.3%		
	PRODUCTIVITI		۵۰.۵۸		
TOTAL SOIL PROC	ESSING RECORDS (2-S	EC and 20-SEC)	1,811		
NONPROCESS RECO	RDS (Test, calibrat	ion, etc)	17		
20-SEC P	ROCESS RECORDS		1,535		
	TOTAL SORT		0 MD>0 & MND=0		
	NO SORT		1,326 AD=0 & MD=0 8		
	SOME SORT		209 AD>0&0 <md<mn< td=""><td>Omax&amp;MND<mndmax< td=""><td></td></mndmax<></td></md<mn<>	Omax&MND <mndmax< td=""><td></td></mndmax<>	

File S1JA0728.WR1

UNEXPLAINED RECORDS

AD=0 & MD

AD<0 & MD

0<AD<1kBq & MD>0

ACT\_P <5 kBq

Printed on 07/29/93 at 07:56:06 AM

PAUSE

TIME

11:23

UNEXPLAIN

TIME

None

158

1

0

0

0

57

20.7%

276 (ACT\_P >0 kBq)

15,350

		2-SEC KECOKU	2 MIIH 2	UKIS		210	(,,,,,	>0 KBQ)			
		2-SEC RECORD	S WITH P	OSITIVES	IN >1 DE	TECTOR					
		2	DETECTO	RS	66		84.6%				
		3	DETECTO	RS	9		11.5%				
		4	DETECTO	RS	3		3.8%				
		5	DETECTO	RS	0		0.0%				
		6	DETECTO	RS	0		0.0%				
		7	DETECTO	RS	0		0.0%				
			DETECTO	RS	0		0.0%				
			OTAL			78					
		NET 2-SEC RE				198					
		2-SEC PERIOD				15,152					
		AVG TIME BET	WEEN 2-S	EC SORTS		155.1	sec				
1-GATE	SORTS	139	ACT_ND	NUMBER	SPEC_A			ACT_P	SORT	FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)			(Bq)	(#)		(kBq)
1	2	1.4%	-14000	0	-241			4000	15	5.4%	4
2	15	10.8%	-12000	3	<del>-</del> 206			8000	115	41.7%	8
3	18		-10000	4	-172			12000	50		12
4	30		-8000	4	-137			16000	22	8.0%	16
5	36		-6000	43	-103			20000	7	2.5%	20
6	22		-4000	124	-69			24000	12	4.3%	24
7	16	11.5%	-2000	294	-34			28000	5	1.8%	28
8	0		0	415	0			32000	5	1.8%	32
TOTAL	139		2000	377	34			36000	3	1.1%	36
			4000	198	69			40000	2	0.7%	40
2-GATE	SORTS	137	6000	74	103			44000	0	0.0%	44
DETECTR	SORTS	FREQ%	8000	12	137			48000	2	0.7%	48
8			10000	2	172			52000	4		52
9	4	2.9%	12000	2	206			56000	5		56
10	20	14.6%	14000	0	241			60000	5		60
11	21	15.3%	16000	0	275			64000	6		64
12	36	26.3%	18000	0	309			68000	2		68
13	28	20.4%	20000	0	344			72000	2		72
14	18	13.1%	22000	0	378			76000	1		76
15	10	7.3%	24000	0	412			80000	2		80
TOTAL	137		26000	0	447			84000	0		84
			>28000	0	0		;	84000	11		>84
			TOTAL	1552				TOTAL	276		
SUMMARY	TOTALS		2/6		CODTO CY	ONE 0	ATE OU	v	170		
		ICLE EVENTS	269		SORTS BY			. T	139 137		
		TICLE EVENTS	115		SORTS BY	IWU G	MIES		137		
	DISIBIBU	TED EVENTS	0								

REC CODE EXPLANATION

1.00 Source check (Soil on belt)

2.00 Empty belt

2-SEC COUNT PERIODS

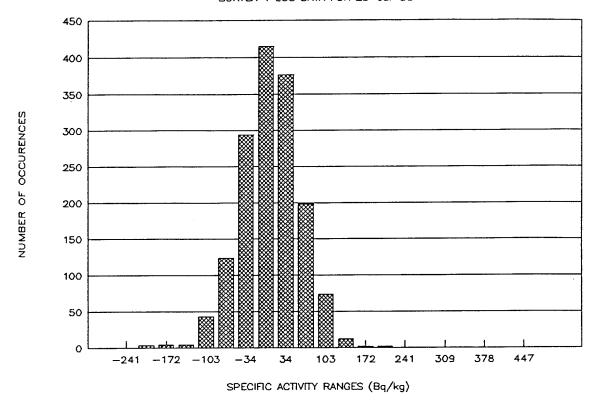
2-SEC RECORDS WITH SORTS

3.00 Test (No process soil)

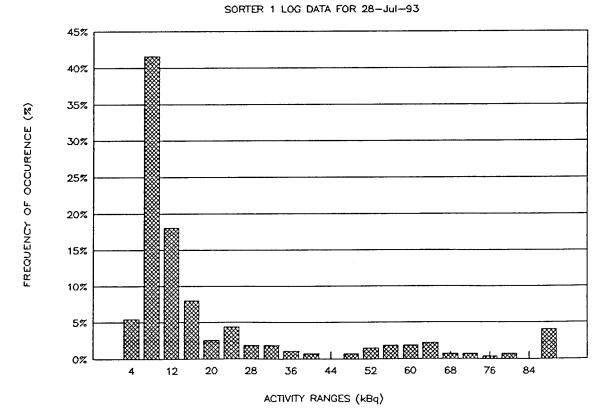
File S1JA0728.WR1

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SORTER 1 LOG DATA FOR 28-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES



SORTER 2 28-Ju	ıl -93							
AVERAGE BACKGROUND COU	INT RATE	0.80	±	0.00 c/sec				
SORTER SOIL DENSITY		1.3	tons/m³					
GROUND SOIL DENSITY		1.65	tons/m³					
				CONTAI	<b>HINATED</b>	CLEAN		
MASS TOTAL				0.28	3 tons	89.0	tons	
MAXIMUM/SORT				5.	l kg	58.3	kg	
MINIMUM/SORT				0.	7 kg	53.2	kg	
	INC DECOVEDY							99.7%
WEIGHT RECOVERY OR VOL				0.2	2 yd³	70.6	yd3	70.8 yd3/day
EQUIVALENT SOIL-IN-GRO	UND			0.2	- /-		•	
PARTICLE ACTIVITY (MAX	IMUM ESTIMATE)							
TOTAL				6,17	l kBq			
MAXIMUM/SORT				894	4 kBq			
MINIMUM/SORT				3.3	3 kBq			
DISPERSED + PARTICLE (	REALISTIC ESTIMATE) ACTIV	/ITY		2,11	B kBq	5,455	kBq	
MAXIMUM/SORT				50	) kBq		kBq	
MINIMUM/SORT				(	) Bq		kBq	
SPECIFIC ACTIVI	TY			7,64	5 Bq/kg	61	Bq/kg	
·								
WORK HISTORY	ar aa			HODE	DAY END	03:30 PM		
WORK DAY START	05:00 AM				SHUT-DOWN	03:30 PM		
PLANT START-UP	05:00 AM				OIL PROCESSING			
START SOIL PROC	CESSING 05:28 AM 11:30 AM				PERIOD	0.5		
LUNCH START	(1.30 An			23				
WORK H	IOURS				10.0 hr			
AVAILA	ABLE HOURS				10.0 hr			
ACTUAL	PROCESS HOURS (total 20	-sec re	cords)		8.51 hr			
DOWN-1	TIME				1.49 hr			
TOTAL	SYSTEM PAUSE				1.14 hr			
NONAVA	ATLABLE HOURS				0.0 hr			
START-	-UP				0.48 hr			
SHUT-E	OOWN				0.31 hr			
PLANT	PERFORMANCE				85.1%			
PRODUC	CTIVITY				85.1%			
TOTAL SOIL PROCESSING	RECORDS (2-SEC and 20-SE	C)			1,763			
	est, calibration, etc)				20			
20-SEC PROCESS				1,53	2			
TOTAL					0 MD>0 & MND=0			
NO SOI				1,31	0 AD=0 & MD=0	0 <dre>dom</dre>		
SOME S				22	2 AD>0&0 <md<mni< td=""><td>Omax&amp;MND<m< td=""><td>NDmax</td><td></td></m<></td></md<mni<>	Omax&MND <m< td=""><td>NDmax</td><td></td></m<>	NDmax	
	LAINED RECORDS				0			
	1kBq & MD>0 0					UNEXPLAI	N	PAUSE
	AD=0 & MD 0					TIME		TIME
	AD<0 & MD 0					None		11:23
ACT_P	<5 kBq 32	13.99	X					
								•

File S2JA0728.WR1

Printed on 07/29/93 at 08:20:23 AM

231 (ACT\_P >0 kBq)

15,320

		2-SEC RECORD	S WITH P	OSITIVES	IN >1 DE	TECTOR				
		2	DETECTO	RS	56	81.2%				
		3	DETECTO	RS	12	17.4%				
		4	DETECTO	RS	1	1.4%				
		5	DETECTO	RS	0	0.0%				
		6	DETECTO	RS	0	0.0%				
		7	DETECTO	RS	0	0.0%				
		8	DETECTO	RS	0	0.0%				
		T	OTAL			69				
		NET 2-SEC RE	CORDS WI	TH SORTS		162				
		2-SEC PERIOD	S WITH N	O SORTS		15,158				
		AVG TIME BET	WEEN 2-S	EC SORTS		189.1 sec				
1-GATE S	ORTS	121	ACT_ND	NUMBER	SPEC_A		ACT_P	SORT	FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)		(Bq)	(#)		(kBq)
1	2	1.7%	-14000	0	-240		4000	9	3.9%	4
. 2	13	10.7%	-12000	0	-206		8000	84	36.4%	8
3	25	20.7%	-10000	2	-172		12000	36	15.6%	12
4	23	19.0%	-8000	9	-137		16000	21	9.1%	16
5	26	21.5%	-6000	3	-103		20000	14	6.1%	20
6	16	13.2%	-4000	8	-69		24000	9	3.9%	24
7	15	12.4%	-2000	33	-34		28000	8	3.5%	28
8	1	0.8%	0	117	0		32000	8	3.5%	32
TOTAL	121		2000	298	34		36000	3	1.3%	36
			4000	438	69		40000	3	1.3%	40
2-GATE S		110	6000	352	103		44000	4	1.7%	44
DETECTR	SORTS	FREQ%	8000	193	137		48000	2	0.9%	48
8			10000	79	172		52000	3	1.3%	52
9	5	4.5%	12000	17	206		56000	1	0.4%	56
10	15	13.6%	14000	2	240		60000	2	0.9%	60
11	27	24.5%	16000	1	274		64000	3	1.3%	64
12	20	18.2%	18000	0	309		68000	4	1.7%	68
13	20	18.2%	20000	0	343		72000	2	0.9%	72
14	15	13.6%	22000	0	377		76000	4	1.7%	76
15	8	7.3%	24000	0	412		80000	2	0.9%	80
TOTAL	110		26000	0	446		84000	2	0.9%	84
			>28000	0	0	>	84000	7	3.0%	>84
			TOTAL	1552			TOTAL	231		

### REC CODE EXPLANATION

SUMMARY TOTALS

1.00 Source check (Soil on belt)

0

2.00 Empty belt

DISTRIBUTED EVENTS

HOT PARTICLE EVENTS 229

MULTIPARTICLE EVENTS 153

2-SEC COUNT PERIODS

2-SEC RECORDS WITH SORTS

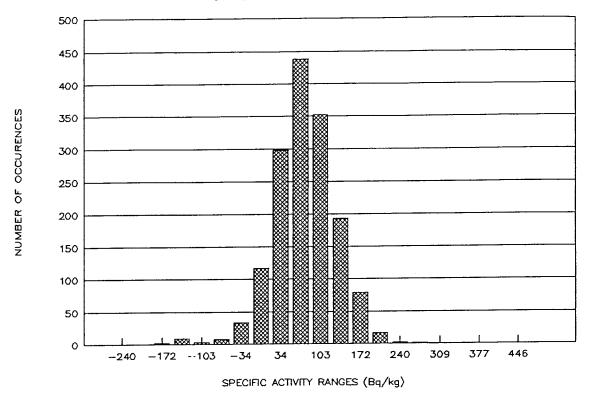
3.00 Test (No process soil)

SORTS BY ONE GATE ONLY

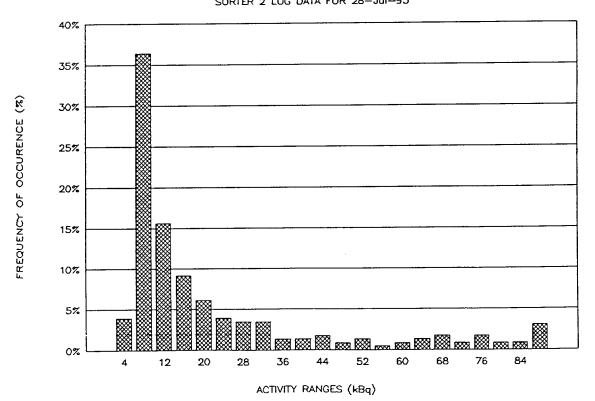
SORTS BY TWO GATES

121

SORTER 2 LOG DATA FOR 28-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES SORTER 2 LOG DATA FOR 28-Jul-93



SORTER 1 29-Jul-93				
AVERAGE BACKGROUND COUNT RATE	0.77	± 0.04 c/sec		
SORTER SOIL DENSITY	1.3	tons/m³		
GROUND SOIL DENSITY	1.65	tons/m³		
		CONTAMINATED	CLEAN	
MASS TOTAL		0.44 tons	90.5 tons	•
MAXIMUM/SORT		5.1 kg	58.2 kg	
MINIMUM/SORT		0.7 kg	53.1 kg	
WEIGHT RECOVERY OR VOLUME RECOVE	ERY			99.5%
EQUIVALENT SOIL-IN-GROUND		0.35 yd³	71.8 yd <sup>3</sup>	72.1 yd³/day
PARTICLE ACTIVITY (MAXIMUM ESTI	MATE)			
TOTAL		7,866 kBq		
MAXIMUM/SORT		419 kBq		
MINIMUM/SORT		2.9 kBq		
DISPERSED + PARTICLE (REALISTIC	ESTIMATE) ACTIVITY	2,777 kBq	2,720 kBq	
MAXIMUM/SORT		269 kBq	15 kBq	
MINIMUM/SORT		0 Bq	-8 kBq	
SPECIFIC ACTIVITY		6,330 Bq/kg	30 Bq/k	g
WORK HISTORY				
WORK DAY START	05:00 AM	WORK DAY END	03:30 PM	
PLANT START-UP	05:00 AM	PLANT SHUT-DOWN	03:30 PM	
START SOIL PROCESSING	05:22 AM	END SOIL PROCESSING	03:15 PM	
LUNCH START	11:30 AM	LUNCH PERIOD	0.5 hr	
WORK HOURS		10.0 hr		
AVAILABLE HOURS		10.0 hr		
ACTUAL PROCESS F	IOURS (total 20-sec red	cords) 8.68 hr		
DOWN-TIME		1.32 hr		
TOTAL SYSTEM PAU	ISE	1.28 hr		
NONAVAILABLE HOL	IRS	0.0 hr		
START-UP		0.38 hr		
SHUT-DOWN		0.24 hr		
PLANT PERFORMANO	E	86.8%		
PRODUCTIVITY		86.8%		
TOTAL SOIL PROCESSING RECORDS (2	-SEC and 20-SEC)	1,987		
NONPROCESS RECORDS (Test, calibr	ation, etc)	17		
20-SEC PROCESS RECORDS		1,563		
TOTAL SORT		0 MD>0 & MND=0		
NO SORT		1,249 AD=0 & MD=0	& MND>0	
SOME SORT		314 AD>0&0 <md<mn< td=""><td>Dmax&amp;MND<mndmax< td=""><td></td></mndmax<></td></md<mn<>	Dmax&MND <mndmax< td=""><td></td></mndmax<>	
UNEXPLAINED RECO	RDS	0		
0 <ad<1kbq &="" md="">0</ad<1kbq>			UNEXPLAIN	PAUSE
AD=0	& MD 0		TIME	TIME
<b>-</b>	A A		AF 1A 1F	44.30

Printed on 07/30/93 at 11:07:43 AM

11:29

15:18

05:40:45

08:04:25

AD<0 & MD

ACT\_P <5 kBq

0

86 20.3%

7	P-SEC COU	INT PERIODS				15,630			1	4:11:25
•		2-SEC RECORD	S WITH S	ORTS			(ACT_P >0 k	Bq)	1	4:27:05
		2-SEC RECORD			IN >1 DE		· -	·		
			DETECTO		96		81.4%			
			DETECTO		19		16.1%			
		4	DETECTO	RS	3		2.5%			
		5	DETECTO	RS	0		0.0%			
		6	DETECTO	RS	0		0.0%			
		7	DETECTO	RS	0		0.0%			
		8	DETECTO	RS	0		0.0%			
		T	OTAL			118				
		NET 2-SEC RE	CORDS WI	TH SORTS		306				
		2-SEC PERIOD	S WITH N	SORTS		15,324				
		AVG TIME BET	WEEN 2-SI	EC SORTS		102.2	sec			
4 0475 /	20076	219	ACT NO	MIMDED	SPEC_A		ACT_P	SORT	FREQ%	ACT_P
1-GATE	SORTS	FREQ%	ACT_ND (Bq)		(Bq/kg)		(Bq)			(kBq)
DETECTR	SUKTS	FREUA	(ра)	(#)	(pd) va)		(54)	(")		<b>.</b>
1	2	0.9%	-14000	0	-241		4000	20	4.7%	4
2	14	6.4%	-12000	0	-206		8000	187	44.1%	8
3	32	14.6%	-10000	3	-172		12000	52	12.3%	12
4	30	13.7%	-8000	6	-137		16000	39	9.2%	16
5	46	21.0%	-6000	15	-103		20000	24	5.7%	20
6	43	19.6%	-4000	30	-69		24000	17	4.0%	24
7	43	19.6%	-2000	116	-34		28000	15	3.5%	28
8	9	4.1%	0	253	0		32000	10	2.4%	32
TOTAL	219		2000	436	34		36000		3.5%	36
			4000	394	69		40000		1.4%	40
2-GATE	SORTS	205	6000	220	103		44000		0.5%	44
DETECTR	SORTS	FREQ%	8000	75	137		48000		1.4%	48
8			10000	27	172		52000		0.5%	52
9	6	2.9%	12000	4	206		56000		0.5%	56
10	20	9.8%	14000	0	241		60000		0.7%	60
11	32	15.6%	16000	1	275		64000		0.2%	64
12	34	16.6%	18000	0	309		68000		0.7%	68
13	43	21.0%	20000	0	344		72000		0.7%	72 76
14	42	20.5%	22000	0	378		76000		0.7%	
15	28	13.7%	24000	0	412		80000		0.7%	80 87
TOTAL	205		26000	0	447		84000		0.2%	84 >84
			>28000	0	0		>84000		2.4%	704
CIMUADY	2 IATOT		TOTAL	1580			TOTAL	424		
SUMMARY		CLE EVENTS	416		SORTS RY	ONE G	ATE ONLY	219		
		TICLE EVENTS	185		SORTS BY			205		
		ED EVENTS	0		Jan. 12 2.					
'	, a sikibu	CO LILITO	•							

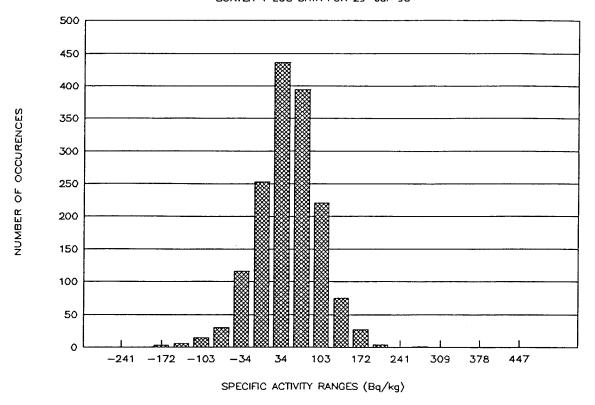
### REC CODE EXPLANATION

- 1.00 Source check (Soil on belt)
- 2.00 Empty belt
- 3.00 Test (No process soil)

File S1JA0729.WR1

Printed on 07/30/93 at 11:07:43 AM

SORTER 1 LOG DATA FOR 29-Jul-93



## JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 1 LOG DATA FOR 29-Jul-93 50% 45% 40% FREQUENCY OF OCCURENCE (%) 35% 30% 25% 20% 15% 10% 5% 0% <del>, 1999 | 1999 | 1999</del> 20 28 44 12 84

SORTER 2	29-Jul-93										
AVERAGE BACK	GROUND COUNT RATE		0.80	±	0.01	c/sec					
SORTER SOIL			1.3	tons/m	13						
GROUND SOIL			1.65	tons/m	13						
						CONTAM	INATED	CLEAN			
MASS TOTAL						0.44	tons	91.1	tons		
MAXIM	IUM/SORT					5.8	kg	58.3	kg		
MINIM	IUM/SORT					0.7	kg	52.4	kg		
										00.5%	
WEIGHT RECOV	ERY OR VOLUME RECOVERY							77.7		99.5%	.,
EQUIVALENT S	SOIL-IN-GROUND					0.35	Aq,	14.2	yd3	72.5 yd³/da	y
	THE CHANTER SCTINAT	<b>5</b> \									
	TIVITY (MAXIMUM ESTIMAT	E)				9,721	kBa				
TOTAL							kBq				
	IUM/SORT						kBq				
MINIM	HUM/SORT						Koq				
Dieneneen +	PARTICLE (REALISTIC ES	TIMATEL ACTIV	VITY			3,417	' kBa	5,798	kBq		
	(UM/SORT	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	••••			•	kBq		kBq		
	MUM/SORT						· Bq		kBq		
	FIC ACTIVITY						Bq/kg	64	Bq/kg		
SECO	THE NOTIVITY					•					
WORK HISTORY	1										
WORK	DAY START	05:00 AM					AY END	03:30 PM			
PLANT	START-UP	05:00 AM					SHUT-DOWN	03:30 PM			
START	SOIL PROCESSING	05:22 AM					IL PROCESSING				
LUNC	1 START	11:30 AM				LUNCH	PERIOD	0.5	hr		
	WORK HOURS						10.0 hr				
	AVAILABLE HOURS						10.0 hr				
	ACTUAL PROCESS HOU	RS (total 20	-sec r	ecords:	)		8.72 hr				
	DOWN-TIME	(10101 20					1.28 hr				
	TOTAL SYSTEM PAUSE						1.28 hr				
	NONAVAILABLE HOURS						0.0 hr				
	START-UP						0.38 hr				
	SHUT-DOWN						0.23 hr				
	PLANT PERFORMANCE						87.2%				
	PRODUCTIVITY						87.2%				
TOTAL SOIL	PROCESSING RECORDS (2-S	EC and 20-SE	(C)				1,991				
NONPROCESS I	RECORDS (Test, calibrat	ion, etc)					10				
20-SI	EC PROCESS RECORDS					1,570					
	TOTAL SORT						) MD>0 & MND=0				
	NO SORT					•	AD=0 & MD=0 &				
	SOME SORT						AD>0&0 <md<mnc< td=""><td>M&gt;DMASxemC</td><td>NDmax</td><td></td><td></td></md<mnc<>	M>DMASxemC	NDmax		
	UNEXPLAINED RECORD	S				C	)			241105	
	0 <ad<1kbq &="" md="">0</ad<1kbq>	0						UNEXPLAI	N	PAUSE	
	& 0=DA	MD 0						TIME		TIME	
	AD<0 &	MD 0						None		11:29	

File S2JA0729.WR1

ACT\_P <5 kBq

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15:18

1

62 14.7%

15,700

		2-SEC RECORD	S WITH S	ORTS		421	(ACT_P >0 kB	<b>(</b> p		
		2-SEC RECORD	S WITH P	OSITIVES	IN >1 DE	TECTOR				
		2	DETECTO	RS	103		83.7%			
		3	DETECTO	RS	17		13.8%			
		4	DETECTO	RS	3		2.4%			
		5	DETECTO	RS	0		0.0%			
		6	DETECTO	RS	0		0.0%			
		7	DETECTO	RS	0		0.0%			
		8	DETECTO	RS	. 0		0.0%			
		1	OTAL			123				
		NET 2-SEC RE	CORDS WI	TH SORTS		298				
		2-SEC PERIOD	S WITH N	O SORTS		15,402				
		AVG TIME BET	WEEN 2-S	EC SORTS		105.4	sec			
1-GATE	SORTS	227	ACT_ND	NUMBER	SPEC_A		ACT_P	SORT	FREQ%	ACT_P
DETECT		FREQ%	(Bq)		(Bq/kg)		(Bq)	(#)		(kBq)
			(-4)	ζ ζ	(- <del>4</del> )		1-4/	****		• ••
1	11	4.8%	-14000	0	-240		4000	17	4.0%	4
2	2 35	15.4%	-12000	1	-206		8000	160	38.0%	8
3	44	19.4%	-10000	1	-172		12000	69	16.4%	12
4	43	18.9%	-8000	1	-137		16000	37	8.8%	16
5	38	16.7%	-6000	2	-103		20000	19	4.5%	20
6	28	12.3%	-4000	6	-69		24000	24	5.7%	24
7	23	10.1%	-2000	40	-34		28000	13	3.1%	28
8	5	2.2%	0	128	0		32000	7	1.7%	32
TOTAL	. 227		2000	284	34		36000	12	2.9%	<b>3</b> 6
			4000	426	69		40000	5	1.2%	40
2-GATE	SORTS	194	6000	341	103		44000	11	2.6%	44
DETECT	R SORTS	FREQ%	8000	216	137		48000	6	1.4%	48
8	3		10000	104	172		52000	1	0.2%	52
9	22	11.3%	12000	22	206		56000	3	0.7%	56
10	31	16.0%	14000	7	240		60000	4	1.0%	60
11	40	20.6%	16000	1	274		64000	1	0.2%	64
12	34	17.5%	18000	0	309		68000	1	0.2%	68
13	32	16.5%	20000	0	343		72000	4	1.0%	72
14	22	11.3%	22000	0	377		76000	6	1.4%	76
15	13	6.7%	24000	0	412		80000	2	0.5%	80
TOTAL	194		26000	0	446		84000	5	1.2%	84
			>28000	0	0		>84000	14	3.3%	>84
			TOTAL	1580			TOTAL	421		
SUMMAR	Y TOTALS									
		CLE EVENTS	405		SORTS BY			227		
		ICLE EVENTS	202		SORTS BY	TWO GA	ITES	194		
	DISTRIBUT	ED EVENTS	0							

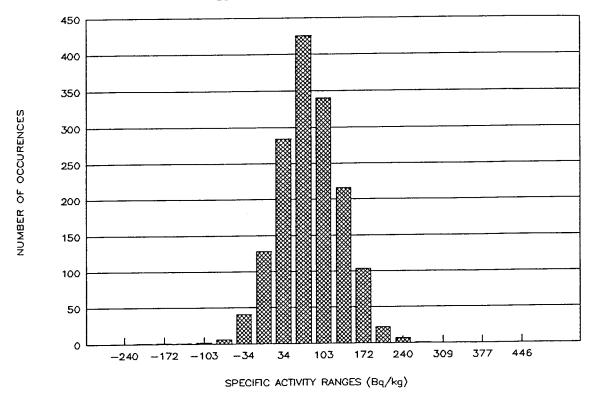
### REC CODE EXPLANATION

- 1.00 Source check (Soil on belt)
- 2.00 Empty belt

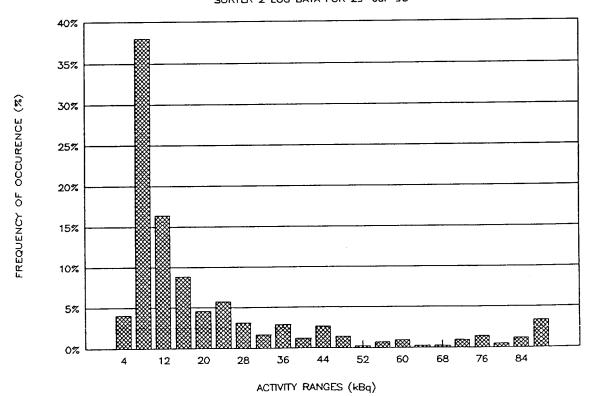
2-SEC COUNT PERIODS

3.00 Test (No process soil)

SORTER 2 LOG DATA FOR 29-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES SORTER 2 LOG DATA FOR 29-Jul-93



SORTER 1 30-Jul-93				
AVERAGE BACKGROUND COUNT RATE	0.71 ± 0.	.03 c/sec		
SORTER SOIL DENSITY	1.3 tons/m³			
GROUND SOIL DENSITY	1.65 tons/m³			
GROUND SOIL DENOTITY	1,002 (3,10,1	CONTAMINATED	CLEAN	
MASS TOTAL		0.58 tons	111.0 ton	s
MAXIMUM/SORT		5.8 kg	58.2 kg	•
MINIMUM/SORT		0.7 kg	52.4 kg	
MINIMON/ SOCT		0.1 Ng	20.4 Kg	
WEIGHT RECOVERY OR VOLUME RECOVERY				99.5%
EQUIVALENT SOIL-IN-GROUND		0.46 yd³	88.0 yd3	88.5 yd3/day
				•
PARTICLE ACTIVITY (MAXIMUM ESTIMAT	E)			
TOTAL		17,592 kBq		
MAXIMUM/SORT		3,131 kBq		
MINIMUM/SORT		3.0 kBq		
DISPERSED + PARTICLE (REALISTIC ES	TIMATE) ACTIVITY	5,632 kBq	5,693 kBq	
MAXIMUM/SORT		1950 kBq	16 kBq	
MINIMUM/SORT		0´Bq	-12 kBq	
SPECIFIC ACTIVITY		9,642 Bq/kg	51 Bq/l	kg
WORK HISTORY				
WORK DAY START	04:30 AM	WORK DAY END	04:30 PM	
PLANT START-UP	04:30 AM	PLANT SHUT-DOWN	04:30 PM	
START SOIL PROCESSING	04:46 AM	END SOIL PROCESSING	04:02 PM	
LUNCH START	11:30 AM	LUNCH PERIOD	0.0 hr	
		42.01		
WORK HOURS		12.0 hr		
AVAILABLE HOURS	00 (4-4-1 20	12.0 hr		
	RS (total 20-sec records)	10.65 hr 1.35 hr		
DOWN-TIME		0.62 hr		
TOTAL SYSTEM PAUSE				
NONAVAILABLE HOURS		0.0 hr 0.28 hr		
START-UP		0.46 hr		
SHUT-DOWN PLANT PERFORMANCE		88.8%		
PRODUCTIVITY		88.8%		
PRODUCTIVITY		00.0%		
TOTAL SOIL PROCESSING RECORDS (2-S	FC and 20-SEC)	2,511		
NONPROCESS RECORDS (Test, calibrat		4		
20-SEC PROCESS RECORDS	ion, etc,	1,917		
TOTAL SORT		0 MD>0 & MND=0		
NO SORT		1,530 AD=0 & MD=0 &	MND>0	
SOME SORT		387 AD>0&0 <md<mnc< td=""><td></td><td><b>.</b></td></md<mnc<>		<b>.</b>
UNEXPLAINED RECORDS	s	0		•
0 <ad<1kbq &="" md="">0</ad<1kbq>	0	•	UNEXPLAIN	PAUSE
AD=0 & 1			TIME	TIME
AD<0 & I			None	04:46
ACT_P <5 kBq	106 17.8%			
noting to want				

File S1JA0730.WR1

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2-SEC COUNT PERIODS	19,1	70
2-SEC RECORDS WITH SORTS	5	94 (ACT_P >0 kBq)
2-SEC RECORDS WITH POSITIVES	IN >1 DETECT	OR
2 DETECTORS	136	80.0%
3 DETECTORS	29	17.1%
4 DETECTORS	4	2.4%
5 DETECTORS	1	0.6%
6 DETECTORS	0	0.0%
7 DETECTORS	0	0.0%
8 DETECTORS	0	0.0%
TOTAL	1	70
NET 2-SEC RECORDS WITH SORTS	4	24
2-SEC PERIODS WITH NO SORTS	18,7	46
AVG TIME BETWEEN 2-SEC SORTS	90	.4 sec

	1-GATE	SORTS	299	ACT_ND	NUMBER	SPEC_A	ACT_P	SORT	FREQ%	ACT_P
	DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)	(Bq)	(#)		(kBq)
		_		44000	•	2/4	4000	29	4.9%	4
	1	6	2.0%	-14000	0		8000	255	42.9%	8
	2	20	6.7%	-12000	1	-206		99		12
	3	38	12.7%	-10000	0	-172	12000			16
	4	45	15.1%	-8000	1	-137	16000	59		20
	5	61	20.4%	-6000	4	-103	20000	23		
	6	51	17.1%	-4000	11	-69	24000	17		24
	7	62	20.7%	-2000	66	-34	28000	19		28
	8	16	5.4%	0	233	0	32000	17		32
	TOTAL	299		2000	386	34	36000	11		36
				4000	542	69	40000	7	1.2%	40
	2-GATE	SORTS	295	6000	396	103	44000	6	1.0%	44
	DETECT		FREQ%	8000	186	137	48000	1	0.2%	48
	8			10000	74	172	52000	2	0.3%	52
	9	14	4.7%	12000	16	206	56000	5	0.8%	56
	10	27	9.2%	14000	3	241	60000	5	0.8%	60
	11	41	13.9%	16000	2	275	64000	4	0.7%	64
	12	69	23.4%	18000	0	309	68000	6	1.0%	68
	13	58	19.7%	20000	0	344	72000	7	1.2%	72
	14	46	15.6%	22000	0	378	76000	2	0.3%	76
	15	40	13.6%	24000	0	412	80000	1	0.2%	80
	TOTAL	295		26000	0	447	84000	1	0.2%	84
	TOTAL	2,3		>28000	0	0	>84000	18	3.0%	>84
				TOTAL	1921		TOTAL	594		
	CIMMADI	ZIATOT								
SUMMARY TOTALS  HOT PARTICLE EVENTS  MULTIPARTICLE EVENTS  DISTRIBUTED EVENTS			578		SORTS BY	Y ONE GATE ONLY	299			
			223			Y TWO GATES	295			
			0		JON 13 D	i ino with	-/-			
		DIZIKIROLE	D EAFNI2	U						

### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

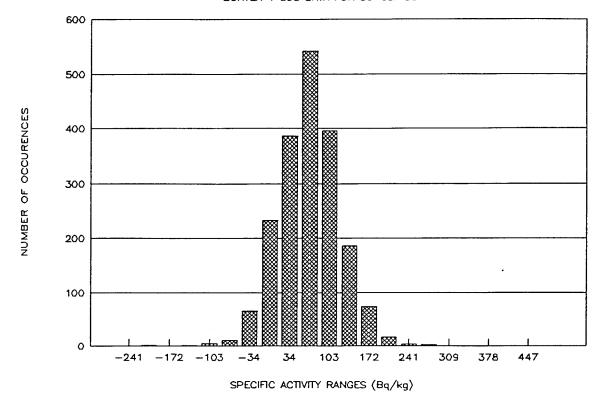
2.00 Empty belt

3.00 Test (No process soil)

File S1JA0730.WR1

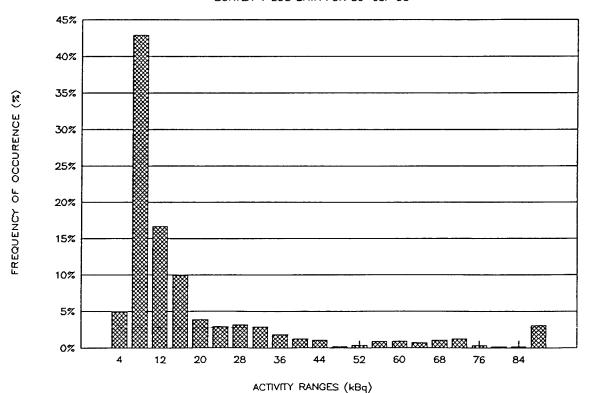
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SORTER 1 LOG DATA FOR 30-Jul-93



## JA SOIL CLEANUP PLANT HOT PARTICLES

SORTER 1 LOG DATA FOR 30-Jul-93



SORTER 2 30-Jul-93				
AVERAGE BACKGROUND COUNT RATE	0.79 ± 0.0	3 c/sec		
SORTER SOIL DENSITY	1.3 tons/m³			
GROUND SOIL DENSITY	1.65 tons/m <sup>3</sup>			
		CONTAMINATED	CLEAN	
MASS TOTAL		0.58 tons	111.5 tons	
MAXIMUM/SORT		5.1 kg	58.3 kg	
MINIMUM/SORT		0.7 kg	53.2 kg	
				99.5%
WEIGHT RECOVERY OR VOLUME RECOVERY		0.77	88.4 yd³	88.9 yd3/day
EQUIVALENT SOIL-IN-GROUND		0.46 yd³	W.4 /4	<b>550:</b> 72 77
PARTICLE ACTIVITY (MAXIMUM ESTIMATE	:1			
TOTAL	.,	13,114 kBq		
MAXIMUM/SORT		1,072 kBq		
MINIMUM/SORT		3.0 kBq		
FIAMETICAL DOCT				
DISPERSED + PARTICLE (REALISTIC EST	(IMATE) ACTIVITY	4,602 kBq	8,160 kBq	
MAXIMUM/SORT		679 kBq	15 kBq	
MINIMUM/SORT		0 Bq	-6 kBq	
SPECIFIC ACTIVITY		7,875 Bq/kg	73 Bq/kg	
WORK HISTORY	0/ 70 44	WORK DAY END	04:30 PM	
WORK DAY START	04:30 AM	PLANT SHUT-DOWN	04:30 PM	
PLANT START-UP	04:30 AM 05:24 AM	END SOIL PROCESSING		
START SOIL PROCESSING LUNCH START	11:30 AM	LUNCH PERIOD	0.0 hr	
LUNCH START	11.20 701			
WORK HOURS		12.0 hr		
AVAILABLE HOURS		12.0 hr		
ACTUAL PROCESS HOU	RS (total 20-sec records)	10.68 hr		
DOWN-TIME		1.32 hr		
TOTAL SYSTEM PAUSE		0.62 hr		
NONAVAILABLE HOURS		0.0 hr 0.91 hr		
START-UP		0.41 hr		
SHUT-DOWN		89.0%		
PLANT PERFORMANCE		89.0%		
PRODUCTIVITY		0,10.0		
TOTAL SOIL PROCESSING RECORDS (2-S	EC and 20-SEC)	2,499		
NONPROCESS RECORDS (Test, calibrat		6		
20-SEC PROCESS RECORDS		1,923		
TOTAL SORT		0 MD>0 & MND=0		
NO SORT		1,527 AD=0 & MD=0 A		
SOME SORT		396 AD>0&0 <md<mn< td=""><td>Omax&amp;MND<mndmax< td=""><td></td></mndmax<></td></md<mn<>	Omax&MND <mndmax< td=""><td></td></mndmax<>	
UNEXPLAINED RECORD	S	0		DAUGE
0 <ad<1kbq &="" md="">0</ad<1kbq>	1		UNEXPLAIN	PAUSE
AD=0 &			TIME	TIME 04:46
AD<0 &			14:22:48	U4:40
ACT_P <5 kBq	80 13.9%			

File S2JA0730.WR1

1

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19,230

2-SEC RECORDS WITH SORTS 576 (ACT\_P >0 kBq)

		Z SEC RECORD	) 2 MIII 3	OK 13		שוטא) טונ	. So Kody			
		2-SEC RECORD	S WITH P	OSITIVES	IN >1 D	ETECTOR				
		2	DETECTO	RS	134	82.2%				
		3	DETECTO	RS	21	12.9%				
		4	DETECTO	RS	7	4.3%				
		5	DETECTO	RS	1	0.6%				
		6	DETECTO	RS	0	0.0%				
		7	DETECTO	RS	0	0.0%				
		8	DETECTO	RS	0	0.0%				
		ī	OTAL			163				
		NET 2-SEC RE	CORDS WI	TH SORTS		413				
		2-SEC PERIOD	S WITH N	O SORTS		18,817				
		AVG TIME BET	WEEN 2-S	EC SORTS		93.1 sec				
1-GATE S	ORTS	301	ACT_ND	NUMBER	SPEC_A		ACT_P	SORT	FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)		(Bq)	(#)		(kBq)
1	17	5.6%	-14000	0	-240		4000	24	4.2%	4
2	41	13.6%	-12000	1	-206		8000	209	36.3%	8
3	48	15.9%	-10000	0	-172		12000	114	19.8%	12
4	53	17.6%	-8000	1	-137		16000	48	8.3%	16
5	61	20.3%	-6000	2	-103		20000	35	6.1%	20
6	51	16.9%	-4000	2	-69		24000	26	4.5%	24
7	26	8.6%	-2000	23	-34		28000	17	3.0%	28
8	4	1.3%	0	99	0		32000	10	1.7%	32
TOTAL	301		2000	306	34		36000	10	1.7%	36
			4000	512	69		40000	13	2.3%	40
2-GATE SO	ORTS	275	6000	465	103		44000	7	1.2%	44
DETECTR	SORTS	FREQ%	8000	327	137		48000	10	1.7%	48
8			10000	139	172		52000	5	0.9%	52
9	28	10.2%	12000	33	206		56000	5	0.9%	56
10	37	13.5%	14000	16	240		60000	3	0.5%	60
11	54	19.6%	16000	3	274		64000	5	0.9%	64
12	52	18.9%	18000	0	309		68000	6	1.0%	68
13	59	21.5%	20000	0	343		<b>7</b> 2000	3	0.5%	72
14	31	11.3%	22000	0	377		76000	2	0.3%	76
15	14	5.1%	24000	0	412		80000	2	0.3%	80
TOTAL	275		26000	0	446		84000	2	0.3%	84
			>28000	0	0	>	84000	20	3.5%	>84

### REC CODE EXPLANATION

SUMMARY TOTALS

1.00 Source check (Soil on belt)

TOTAL 1929

2.00 Empty belt

2-SEC COUNT PERIODS

3.00 Test (No process soil)

HOT PARTICLE EVENTS 558
MULTIPARTICLE EVENTS 243

DISTRIBUTED EVENTS 0

TOTAL

576

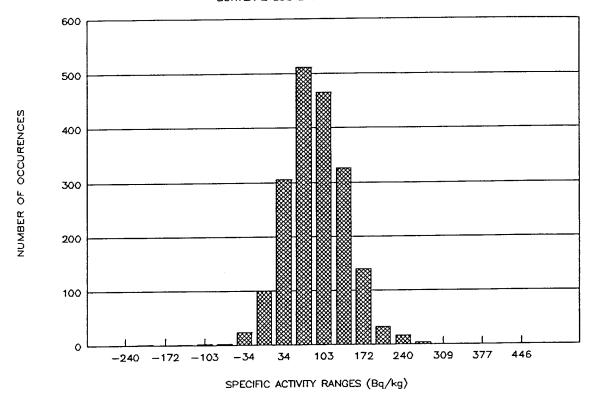
301

275

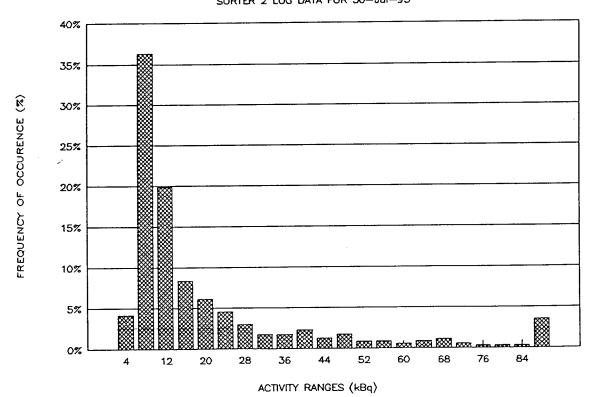
SORTS BY ONE GATE ONLY

SORTS BY TWO GATES

SORTER 2 LOG DATA FOR 30-Jul-93



# JA SOIL CLEANUP PLANT HOT PARTICLES SORTER 2 LOG DATA FOR 30-Jul-93



SORTER 1 31-Jul-93 AVERAGE BACKGROUND COUNT RATE 0.70 ± 0.01 c/sec 1.3 tons/m<sup>3</sup> SORTER SOIL DENSITY GROUND SOIL DENSITY 1.65 tons/m3 CONTAMINATED CLEAN MASS TOTAL 0.18 tons 40.4 tons MAXIMUM/SORT 5.1 kg 58.2 kg MINIMUM/SORT 0.7 kg 53.1 kg WEIGHT RECOVERY OR VOLUME RECOVERY 99.6% EQUIVALENT SOIL-IN-GROUND 32.2 yd3/day 0.14 yd3 32.1 yd3 PARTICLE ACTIVITY (MAXIMUM ESTIMATE) TOTAL 3,681 kBq MAXIMUM/SORT 275 kBq MINIMUM/SORT 2.5 kBq DISPERSED + PARTICLE (REALISTIC ESTIMATE) ACTIVITY 1,236 kBq 2,121 kBq MAXIMUM/SORT 135 kBq 12 kBq MINIMUM/SORT -6 kBq 0 Bq SPECIFIC ACTIVITY 6,907 Bq/kg 52 Bq/kg WORK HISTORY WORK DAY START 05:00 AM WORK DAY END 04:30 PM PLANT START-UP 05:00 AM PLANT SHUT-DOWN 10:15 AM START SOIL PROCESSING 05:52 AM END SOIL PROCESSING 09:44 AM LUNCH START 11:30 AM LUNCH PERIOD 0.5 hr WORK HOURS 11.0 hr AVAILABLE HOURS 5.2 hr ACTUAL PROCESS HOURS (total 20-sec records) 3.88 hr DOWN-TIME 1.37 hr TOTAL SYSTEM PAUSE 0.00 hr NONAVAILABLE HOURS 5.8 hr START-UP 0.87 hr SHUT-DOWN 0.51 hr PLANT PERFORMANCE 73.9% PRODUCTIVITY 35.3% TOTAL SOIL PROCESSING RECORDS (2-SEC and 20-SEC) 850 NONPROCESS RECORDS (Test, calibration, etc) 18 20-SEC PROCESS RECORDS 698 TOTAL SORT 0 MD>0 & MND=0 NO SORT 567 AD=0 & MD=0 & MND>0 SOME SORT 131 AD>0&0<MD<MNDmax&MND<MNDmax UNEXPLAINED RECORDS 0

File S1JA0731.WR1

0<AD<1kBq & MD>0

ACT\_P <5 kBq

AD=0 & MD

AD<0 & MD

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PAUSE

TIME

None

UNEXPLAIN

TIME

07:46:41

1

1

0

0

34

22.4%

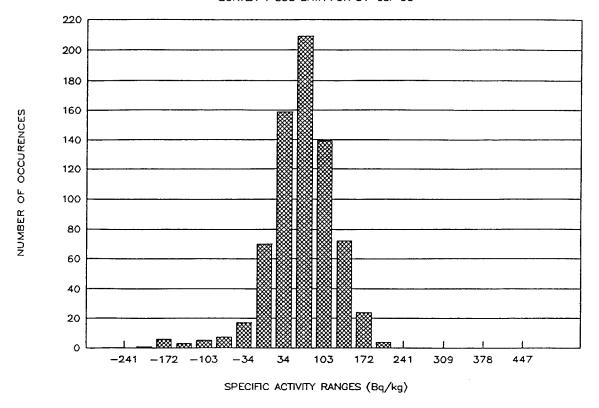
2-SEC COUNT PERIODS	6,9	980
2-SEC RECORDS WITH SORTS	1	52 (ACT_P >0 kBq)
2-SEC RECORDS WITH POSITIVES	IN >1 DETECT	OR
2 DETECTORS	38	70.4%
3 DETECTORS	11	20.4%
4 DETECTORS	4	7.4%
5 DETECTORS	1	1.9%
6 DETECTORS	0	0.0%
7 DETECTORS	0	0.0%
8 DETECTORS	0	0.0%
TOTAL		54
NET 2-SEC RECORDS WITH SORTS		98
2-SEC PERIODS WITH NO SORTS	6,8	382
AVG TIME BETWEEN 2-SEC SORTS	142	2.4 sec

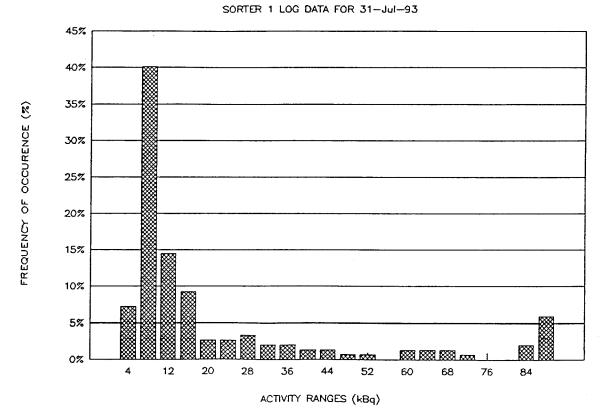
1-GATE	SORTS	68	ACT_ND	NUMBER	SPEC_A	ACT_P	SORT	FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)	(Bq)	(#)		(kBq)
1	1	1.5%	-14000	0	-241	4000	11	7.2%	4
. 2	10	14.7%	-12000	1	-206	8000	61	40.1%	8
3	10	14.7%	-10000	6	-172	12000	22		12
4	14	20.6%	-8000	3	-137	16000	14	9.2%	16
5	15	22.1%	-6000	5	-103	20000	4	2.6%	20
6	8	11.8%	-4000	7	-69	24000	4	2.6%	24
7	8	11.8%	-2000	17	-34	28000	5	3.3%	28
8	2	2.9%	0	70	0	32000	3	2.0%	32
TOTAL	68		2000	159	34	36000	3	2.0%	36
			4000	209	69	40000	2	1.3%	40
2-GATE	SORTS	84	6000	139	103	44000	2	1.3%	44
DETECTR	SORTS	FREQ%	8000	72	137	48000	1	0.7%	48
8			10000	24	172	52000	1	0.7%	52
9	8	9.5%	12000	4	206	56000	0	0.0%	56
10	13	15.5%	14000	0	241	60000	2	1.3%	60
11	15	17.9%	16000	0	275	64000	2	1.3%	64
12	20	23.8%	18000	0	309	68000	2	1.3%	68
13	14	16.7%	20000	0	344	72000	1	0.7%	72
14	10	11.9%	22000	0	378	76000	0	0.0%	76
15	4	4.8%	24000	0	412	80000	0	0.0%	80
TOTAL	84		26000	0	447	84000	3	2.0%	84
			>28000	0	0	>84000	9	5.9%	>84
			TOTAL	716		TOTAL	152		
SUMMARY	TOTALS								
	HOT PARTIC	LE EVENTS	165		SORTS BY	ONE GATE ONLY	68		
	MULTIPARTI	CLE EVENTS	81		SORTS BY	TWO GATES	84		
	DISTRIBUTE		0						

### REC CODE EXPLANATION

- 1.00 Source check (Soil on belt)
- 2.00 Empty belt
- 3.00 Test (No process soil)

SORTER 1 LOG DATA FOR 31-Jul-93





SORTER 2 31-Jul-93				
AVERAGE BACKGROUND COUNT RATE	0.75 ± 0	.05 c/sec		
SORTER SOIL DENSITY	1.3 tons/m³			
GROUND SOIL DENSITY	1.65 tons/m <sup>3</sup>			
groom sole bensit.		CONTAMINATED	CLEAN	
MASS TOTAL		0.17 tons	40.9 tons	
MAXIMUM/SORT		5.1 kg	58.3 kg	
MINIMUM/SORT		0.7 kg	53.2 kg	
·				99.6%
WEIGHT RECOVERY OR VOLUME RECOVER	Y	0.47	32.4 yd³	32.5 yd <sup>3</sup> /day
EQUIVALENT SOIL-IN-GROUND		0.13 yd³	32.4 yu	32.5 ya / day
DADTIOLS ACTIVITY (MAYINIM ECTIMA	TC\			
PARTICLE ACTIVITY (MAXIMUM ESTIMA	12)	2,886 kBq		
TOTAL		84 kBq		
MAXIMUM/SORT MINIMUM/SORT		3.6 kBq		
MINIMON/SORT		0.0		
DISPERSED + PARTICLE (REALISTIC E	STIMATE) ACTIVITY	1,045 kBq	2,873 kBq	
MAXIMUM/SORT		54 kBq	14 kBq	
MINIMUM/SORT		0 Bq	-5 k8q	
SPECIFIC ACTIVITY		6,326 Bq/kg	70 Bq/k	g
WORK HISTORY				
WORK DAY START	05:00 AM	WORK DAY END	04:30 PM	
PLANT START-UP	05:00 AM	PLANT SHUT-DOWN	10:15 AM	
START SOIL PROCESSING	05:52 AM	END SOIL PROCESSING		
LUNCH START	11:30 AM	LUNCH PERIOD	0.5 hr	
WORK HOURS		11.0 hr		
AVAILABLE HOURS		5.2 hr		
	URS (total 20-sec records)	3.91 hr		
DOWN-TIME	5.00	1.34 hr		
TOTAL SYSTEM PAUS	E	0.00 hr		
NONAVAILABLE HOUR		5.8 hr		
START-UP		0.87 hr		
SHUT-DOWN		0.48 hr		
PLANT PERFORMANCE		74.5%		
PRODUCTIVITY		35.6%		
TATAL DOLL DROPPOSING PERSONS (3)	ere and 30-eres	867		
TOTAL SOIL PROCESSING RECORDS (2-NONPROCESS RECORDS (Test, calibra		12		
	tion, etc)	704		
20-SEC PROCESS RECORDS		0 MD>0 & MND=0		
TOTAL SORT NO SORT		585 AD=0 & MD=0	& MND>0	
		119 AD>0&0 <md<mn< td=""><td></td><td></td></md<mn<>		
SOME SORT	ns	0		
UNEXPLAINED RECOR	0	·	UNEXPLAIN	PAUSE
0 <ad<1kbq &="" md="">0 AD=0 &amp;</ad<1kbq>	_		TIME	TIME
AD<0 &			None	None
ACT P <5 kBq	22 13.5%			
<del>-</del> •				

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1

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7,040

2-SEC COUNT PERIODS					7,040					
	2-SEC RECORD	S WITH S	ORTS		163	(ACT_P	>0 kBq)			
	2-SEC RECORD	S WITH P	OSITIVES	IN >1 DE	TECTOR					
	2	DETECTO	RS	43		93.5%				
	3	DETECTO	RS	3		6.5%				
	4	DETECTO	RS	0		0.0%				
	5	DETECTO	RS	0		0.0%				
	6 DETECTORS			0		0.0%				
	7 DETECTORS			0		0.0%				
	8 DETECTORS			0		0.0%				
	Т	OTAL			46					
	NET 2-SEC RE	CORDS WI	TH SORTS		117					
	2-SEC PERIOD	S WITH N	O SORTS		6,923					
	AVG TIME BET	WEEN 2-S	EC SORTS		120.3	sec				
	_,									
		_		_		,	_		FREQ%	ACT_P
SORTS	FREQ%	(Bq)	(#)	(Bq/kg)			(Bq)	(#)		(kBq)
7	8.1%	-14000	0	-240			4000	8	4.9%	4
18	20.9%	-12000	0	-206			8000	57	35.0%	8
10	11.6%	-10000	1	-172		•	12000	25	15.3%	12
14	16.3%	-8000	5	-137		1	6000	21	12.9%	16
19	22.1%	-6000	2	-103			20000	10	6.1%	20
10	11.6%	-4000	5	-69		ä	24000	7	4.3%	24
7	8.1%	-2000	12	-34			28000	4	2.5%	28
1	1.2%	0	46	0		3	32000	6	3.7%	32
<b>8</b> 6		2000	127	34		3	\$6000	3	1.8%	36
		4000	176	69		4	0000	1	0.6%	40
SORTS	77	6000	156	103		4	4000	3	1.8%	44
SORTS	FREQ%	8000	103	137		4	8000	4	2.5%	48
•		10000	64	172		5	2000	2	1.2%	52
9	11.7%	12000	13	206		5	6000	2	1.2%	56
13	16.9%	14000	5	240			50000	1	0.6%	60
10	13.0%	16000	1	274			64000	1	0.6%	64
17	22.1%	18000	0	309		ć	8000	3	1.8%	68
14	18.2%	20000	0	343		7	2000	2	1.2%	72
12	15.6%	22000	0	377		7	76000	1	0.6%	76
2	2.6%	24000	0	412		ε	30000	1	0.6%	80
77		26000	0	446		ε	34000	0	0.0%	84
		>28000	0	0		>8	34000	1	0.6%	>84
		TOTAL	716			1	OTAL	163		
TOTALS										
HOT PARTI	CLE EVENTS	158		SORTS BY	ONE GA	TE ONLY	•	86		
MULTIPARI	ICLE EVENTS	68		SORTS BY	TWO GA	NTES		77		
	18 10 14 19 10 7 186 SORTS SORTS 9 13 10 17 14 12 2 77 TOTALS HOT PARTI	2-SEC RECORD 2 3 4 5 6 7 8 T NET 2-SEC RE 2-SEC PERIOD AVG TIME BET  SORTS FREQX 7 8.1% 18 20.9% 10 11.6% 14 16.3% 19 22.1% 10 11.6% 7 8.1% 1 1.2% 86  SORTS 77 SORTS FREQX 9 11.7% 13 16.9% 10 13.0% 17 22.1% 14 18.2% 12 15.6% 2 2.6% 77	2-SEC RECORDS WITH P 2 DETECTO 3 DETECTO 4 DETECTO 5 DETECTO 6 DETECTO 7 DETECTO 8 DETECTO 8 DETECTO TOTAL  NET 2-SEC RECORDS WITH N AVG TIME BETWEEN 2-S  SORTS 86 ACT_ND SORTS FREQ% (Bq)  7 8.1% -14000 18 20.9% -12000 10 11.6% -10000 14 16.3% -8000 19 22.1% -6000 10 11.6% -4000 7 8.1% -2000 11 1.2% 0 86 2000 4000  SORTS 77 6000 SORTS FREQ% 8000 10000 9 11.7% 12000 13 16.9% 14000 15 13.0% 16000 17 22.1% 18000 16 13.0% 16000 17 22.1% 18000 17 22.1% 18000 17 22.1% 18000 18 22.2000 2 2.6% 24000 77 26000 >28000 TOTAL  TOTALS HOT PARTICLE EVENTS 158	2 DETECTORS 3 DETECTORS 4 DETECTORS 5 DETECTORS 6 DETECTORS 7 DETECTORS 8 DETECTORS 10TAL NET 2-SEC RECORDS WITH SORTS 2-SEC PERIODS WITH NO SORTS AVG TIME BETWEEN 2-SEC SORTS  SORTS 86 ACT_ND NUMBER SORTS FREQX (Bq) (#)  7 8.1% -14000 0 18 20.9% -12000 0 10 11.6% -10000 1 14 16.3% -8000 5 19 22.1% -6000 2 10 11.6% -4000 5 7 8.1% -2000 12 1 1.2% 0 46 86 2000 127 4000 176 SORTS FREQX 8000 103 10000 64 9 11.7% 12000 13 13 16.9% 14000 5 10 13.0% 16000 1 17 22.1% 18000 0 14 18.2% 20000 0 15 15.6% 22000 0 2 2.6% 24000 0 77 26000 0 >28000 0 TOTAL 716 TOTALS HOT PARTICLE EVENTS 158	2-SEC RECORDS WITH POSITIVES IN >1 DE  2 DETECTORS	2-SEC RECORDS WITH POSITIVES IN >1 DETECTOR 2 DETECTORS 43 3 DETECTORS 3 4 DETECTORS 0 5 DETECTORS 0 6 DETECTORS 0 7 DETECTORS 0 7 DETECTORS 0 8 DETECTORS 1 117 2-SEC RECORDS WITH SORTS 117 2-SEC PERIODS WITH NO SORTS 6,923 AVG TIME BETWEEN 2-SEC SORTS 120.3  SORTS 86 ACT_ND NUMBER SPEC_A SORTS FREQX (Bq) (#) (Bq/kg)  7 8.1% -14000 0 -240 18 20.9% -12000 0 -206 10 11.6% -10000 1 -172 14 16.3% -8000 5 -137 19 22.1% -6000 2 -103 10 11.6% -4000 5 -69 7 8.1% -2000 12 -34 1 1.2% 0 46 0 86 2000 127 34 1 1.2% 0 46 0 86 2000 127 34 4000 176 69 SORTS FREQX 8000 103 137 10000 64 172 9 11.7% 12000 13 206 13 16.9% 14000 5 240 10 13.0% 16000 1 274 17 22.1% 18000 0 309 14 18.2% 20000 0 343 12 15.6% 22000 0 377 2 2.6% 24000 0 412 77 26000 0 446 >28000 0 0 0 TOTAL 716  TOTALS HOT PARTICLE EVENTS 158 SORTS BY ONE GA	2-SEC RECORDS WITH POSITIVES IN >1 DETECTOR  2 DETECTORS	2-SEC RECORDS WITH POSITIVES IN >1 DETECTOR  2 DETECTORS 3 0.5% 3 DETECTORS 0 0.0% 4 DETECTORS 0 0.0% 5 DETECTORS 0 0.0% 6 DETECTORS 0 0.0% 7 DETECTORS 0 0.0% 7 DETECTORS 0 0.0% 8 DETECTORS 0 0.0% 117 COLOR 118 COLOR 118 COLOR 119 COLOR 11 1.6% -10000 11 -172 12000 14 16.3% -8000 15 -137 16000 19 22.1% -6000 10 11.6% -4000 15 -69 24000 16 10 11.6% -4000 17 8.1% -2000 19 12.1% -6000 10 11.6% -4000 10 11.6% -4000 11 11.6% -4000 11 11.6% -4000 12 COLOR 13 COLOR 14 16.3% -8000 15 COLOR 16 COLOR 17 8.1% -2000 16 COLOR 17 8.1% -2000 17 8.1% -2000 18 COLOR 19 COLOR 10 11.6% -4000 10 11.6% -4000 11 11.6% -4000 11 11.6% -4000 12 COLOR 13 COLOR 14 16.3% -8000 15 COLOR 15 COLOR 16 COLOR 17 8.1% -2000 17 8.1% -2000 18 COLOR 18 COLOR 19 COLOR 19 COLOR 10 11.6% -4000 10 11.6% -4000 10 11.0% -4000 10 11.0% -4000 10 11.0% -4000 10 11.0% -4000 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 11.0% -4000 10 10 10 10 10 10 10 10 10 10 10 10 10 1	2-SEC RECORDS WITH POSITIVES IN >1 DETECTOR  2 DETECTORS	2-SEC RECORDS WITH POSITIVES IN >1 DETECTOR  2 DETECTORS 3 DETECTORS 3 O.00X 4 DETECTORS 0 0.00X 5 DETECTORS 0 0.00X 6 DETECTORS 0 0.00X 7 DETECTORS 0 0.00X 7 DETECTORS 0 0.00X 7 DETECTORS 0 0.00X 10TAL 46  NET 2-SEC RECORDS WITH SORTS 1117 2-SEC PERIODS WITH NO SORTS AVG TIME BETWEEN 2-SEC SORTS 120.3 sec  SORTS 86 ACT_ND NUMBER SPEC_A ACT_P SORT FREQX (Bq) (#) (Bq/kg) (Bq) (#)  7 8.1% -14000 0 -240 4000 8 4.9% 18 20.9% -12000 0 -206 8000 57 35.0% 10 11.6% -10000 1 -172 12000 25 15.3% 14 16.3% -8000 5 -137 16000 21 12.9% 19 22.1% -6000 2 -103 20000 10 6.1% 10 11.6% -4000 5 -69 24000 10 6.1% 11 1.2% 0 46 0 32000 10 6.1% 11 1.2% 0 46 0 32000 10 6.1% 86 2000 127 34 28000 4 2.5% 1 1 1.2% 0 46 0 32000 10 6.1% 86 2000 127 34 36000 3 1.8% SORTS FREQX 8000 103 137 48000 4 2.5% 1 1.2% 0 46 0 32000 10 6.3.7% 86 2000 127 34 36000 3 1.8% SORTS FREQX 8000 103 137 48000 4 2.5% 1 1.2% 0 46 0 32000 10 6.5% SORTS FREQX 8000 103 137 48000 3 1.8% SORTS FREQX 8000 103 137 48000 4 2.5% 1 1.2% 10000 64 172 52000 2 1.2% 9 11.7% 12000 13 206 56000 2 1.2% 9 11.7% 12000 13 206 56000 2 1.2% 13 16.9% 14000 5 240 60000 1 0.6% SORTS FREQX 8000 103 137 48000 4 2.5% 10 13.0% 16000 1 274 64000 3 1.8% SORTS FREQX 8000 103 137 48000 4 2.5% 13 16.9% 14000 5 240 60000 1 0.6% 10 13.0% 16000 1 274 64000 1 0.6% 17 22.1% 18000 0 309 68000 3 1.8% SORTS FREQX 8000 103 137 7 48000 1 0.6% 17 22.1% 18000 0 309 68000 3 1.8% 18 22.6% 24000 0 343 772000 2 1.2% 12 15.6% 22000 0 3777 76000 1 0.6% 77 26000 0 446 84000 0 0.0% >28000 0 0 844000 1 0.6%  TOTAL 716 TOTAL 163  TOTALS HOT PARTICLE EVENTS 158 SORTS BY ONE GATE ONLY 86

### REC CODE EXPLANATION

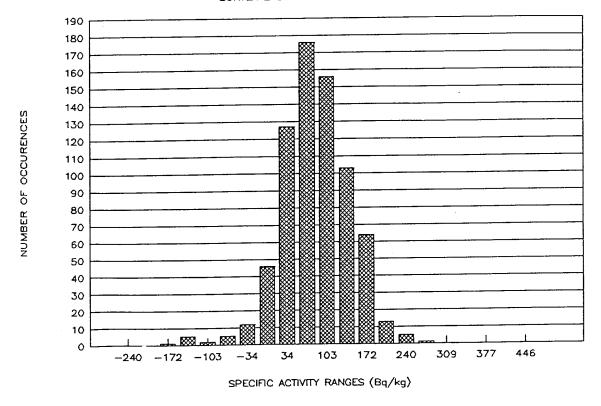
- 1.00 Source check (Soil on belt)
- 2.00 Empty belt

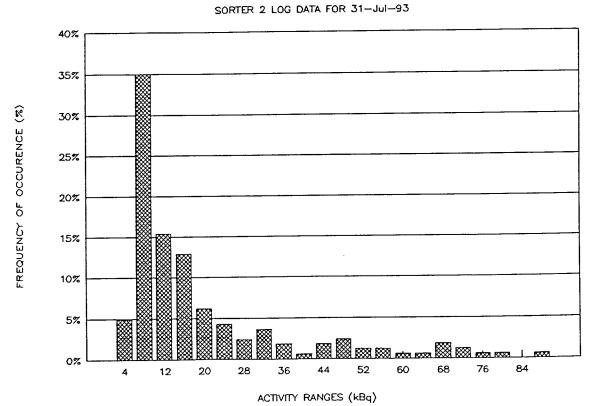
MULTIPARTICLE EVENTS 68
DISTRIBUTED EVENTS 0

2-SEC COUNT PERIODS

3.00 Test (No process soil)

SORTER 2 LOG DATA FOR 31-Jul-93





SORTER 1 02-Aug-93							
AVERAGE BACKGROUND COUNT RA	TE	0.72	t 0.04 c/sec	3			
SORTER SOIL DENSITY		1.3 tons	s/m³				
GROUND SOIL DENSITY		1.65 tons	s/m³				
			CONTA	MINATED	CLEAN		
MASS TOTAL			0.	l4 tons	108.2 t	cons	
MAXIMUM/SORT			3	.6 kg	58.2 k	(g	
MINIMUM/SORT			0.	.7 kg	54.6 k	(g	
WEIGHT RECOVERY OR VOLUME RI	ECOVEDY					99.9	×
	COVERT		0 .	l1 yd³	85.8 y		yd³/day
EQUIVALENT SOIL-IN-GROUND			•	,0	, 0000	•	, - ,,
PARTICLE ACTIVITY (MAXIMUM E	ESTIMATE)						
TOTAL			2,15	i0 kBq			
MAXIMUM/SORT				37 kBq			
HINIMUM/SORT			3.	.0 kBq			
		•••	7/	)2 kn=	1 005 1	·Pa	
DISPERSED + PARTICLE (REALIS	SIIC ESTIMATE) ACTIV	111		2 kBq	1,085 k		
MAXIMUM/SORT			3	i0 kBq	13 k	-	
MINIMUM/SORT				0 Bq	-8 k	•	
SPECIFIC ACTIVITY			5,83	i3 Bq/kg	10 8	q/kg	
WORK HISTORY							
WORK DAY START	05:00 AM		WORK	DAY END	04:30 PM		
PLANT START-UP	05:00 AM		PLANT	SHUT-DOWN	04:30 PM		
START SOIL PROCESSING	05:34 AM		END S	OIL PROCESSING	03:54 PM		
LUNCH START	11:30 AM		LUNCH	PERIOD	0.0 h	r	
WORK HOURS			٠,	11.5 hr			
AVAILABLE HO	NURS			11.5 hr			
	SS HOURS (total 20-	sec record	is)	10.34 hr			
DOWN-TIME			·	1.16 hr			
TOTAL SYSTEM	I PAUSE			0. <b>0</b> 0 hr			
NONAVAILABLE	HOURS			0.0 hr			
START-UP				0.57 hr			
SHUT-DOWN				0.59 hr			
PLANT PERFOR	MANCE			90.0%			
PRODUCTIVITY				90.0%			
TOTAL SOIL PROCESSING RECORD	s (2-ser and 20-ser)	,		1,983			
NONPROCESS RECORDS (Test, ca		,		8			
20-SEC PROCESS RECORD			1,86				
TOTAL SORT	-		-	0 MD>0 & MND=0			
NO SORT				4 AD=0 & MD=0 &	MND>0		
SOME SORT			•	8 AD>0&0<		max	
UNEXPLAINED	RECORDS			0			
0 <ad<1kbq &<="" td=""><td></td><td></td><td></td><td>=</td><td>UNEXPLAIN</td><td>PAUSE</td><td></td></ad<1kbq>				=	UNEXPLAIN	PAUSE	
•	D=0 & MD 0				TIME	TIME	
	D<0 & MD 0				12:07:44	None	
``	<del></del>						

File S1JA0802.WR1

ACT\_P <5 kBq

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29 24.0%

121 (ACT\_P >0 kBq)

18,620

		Z-SEC RECORD	2 MIII 2	01(10					•		
		2-SEC RECORD	S WITH P	OSITIVES	IN >1 DE	TECTO	OR .				
		2	DETECTO	RS	25		83.3%				
		3	DETECTO	RS	4		13.3%				
		4	DETECTO	RS	1		3.3%				
		5	DETECTO	RS	0		0.0%				
		6	DETECTO	RS	0		0.0%				
		7	DETECTO	RS	0		0.0%				
		8	DETECTO	RS	0		0.0%				
		T	OTAL			3	50				
		NET 2-SEC RE	CORDS WI	TH SORTS		9	71				
		2-SEC PERIOD	S WITH N	O SORTS		18,52	29				
		AVG TIME BET	WEEN 2-S	EC SORTS		409.	.2 sec				
								ACT D	CORT	FREQX	ACT_P
1-GATE S		59	ACT_ND		SPEC_A			ACT_P	(#)	FREWA	(kBq)
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)			(Bq)	(#)		(kbq)
1	4	6.8%	-14000	0	-241			4000	7	5.8%	4
2	5		-12000	0	-206			8000	53	43.8%	8
3	7		-10000	0	-172			12000	17	14.0%	12
4	12		-8000	4	-137			16000	9	7.4%	16
5	19		-6000	10	-103			20000	7	5.8%	20
6	7		-4000	74	-69			24000	1	0.8%	24
7	3		-2000	257	-34			28000	3	2.5%	28
8	2		0	447	0			32000	4	3.3%	32
TOTAL	59		2000	525	34			36000	1	0.8%	36
			4000	377	69			40000	3	2.5%	40
2-GATE S	ORTS	62	6000	124	103			44000	1	0.8%	44
DETECTR	SORTS	FREQ%	8000	44	137			48000	2	1.7%	48
8			10000	5	172			52000	2	1.7%	52
9	4	6.5%	12000	2	206			56000	1		56
10	7	11.3%	14000	1	241			60000	0		60
11	10	16.1%	16000	0	275			64000	1		64
12	18	29.0%	18000	0	309			68000	1		68
13	17	27.4%	20000	0	344			72000	1		72
14	4	6.5%	22000	0	378			76000	2		76
15	2	3.2%	24000	0	412			80000	3		80
TOTAL	62		26000	0	447			84000	0		84
			>28000	0	0		:	<b>8</b> 4000	2	1.7%	>84
•			TOTAL	1870				TOTAL	121		
SUMMARY	TOTALS								_		
H	OT PART	ICLE EVENTS	120		SORTS BY	ONE	GATE ON	LY	59		
M	JLTIPAR	TICLE EVENTS	66		SORTS BY	TWO	GATES		62		
D	ISTRIBU	TED EVENTS	0								

### REC CODE EXPLANATION

1.00 Source check (Soil on belt)

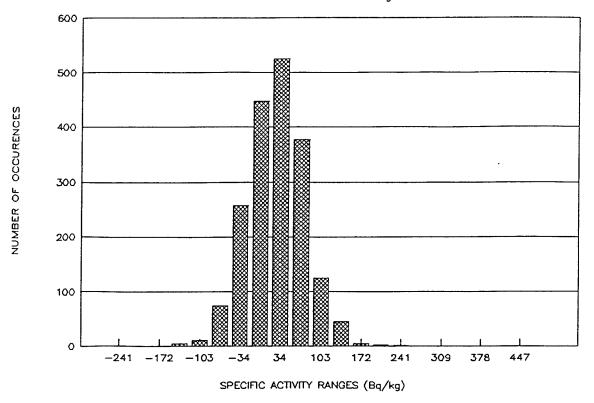
2.00 Empty belt

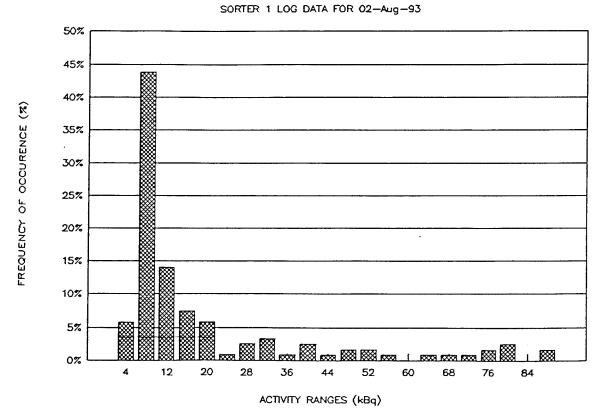
2-SEC COUNT PERIODS

2-SEC RECORDS WITH SORTS

3.00 Test (No process soil)

SORTER 1 LOG DATA FOR 02-Aug-93





SORTER 2	02-Aug-93									
AVERAGE BACKGROU	IND COUNT RATE		0.80	±	0.02	c/sec				
SORTER SOIL DENS			1.3	tons/m	3					
GROUND SOIL DENS			1.65	tons/m	3					
ancons corr						CONTAM	INATED	CLEAN		
MASS TOTAL						0.19	tons	107.1	tons	
MAXIMUM/S	ORT					61.3	kg	58.3	kg	
MINIMUM/S						0.7	kg	52.4	kg	
HINIMONY										
WEIGHT RECOVERY	OR VOLUME RECOVERY									99.8%
EQUIVALENT SOIL-						0.15	yd3	84.9	Aq3	85.0 yd3/day
PARTICLE ACTIVIT	Y (MAXIMUM ESTIMATE	)								
TOTAL						4,517	' kBq			
MAXIMUM/S	CORT					398	kBq			
MINIMUM/S						3.4	kBq			
	•							7 700	1.5	
DISPERSED + PART	ICLE (REALISTIC EST	IMATE) ACTI	VITY			1,496	•	3,392	-	
MAXIMUM/S	SORT						kBq		kBq	
MINIMUM/S	SORT .						Bq .		kBq	
SPECIFIC	ACTIVITY					7,973	Bq/kg	32	Bq/kg	
WORK HISTORY						THOUS D	AV END	04:30 PM		
WORK DAY		05:00 AM					AY END	04:30 PM		
PLANT STA	ART-UP	05:00 AM					SHUT-DOWN			
	L PROCESSING	05:34 AM						0.0		
LUNCH STA	ART	11:30 AM				LUNCH	PER I OD	0.0	111	
	WORK HOURS						11.5 hr			
	AVAILABLE HOURS						11.5 hr			
	ACTUAL PROCESS HOUR	RS (total 20	-sec r	ecords)			10.22 hr			
	DOWN-TIME					,	1.28 hr			
	TOTAL SYSTEM PAUSE						0.11 hr			
	NONAVAILABLE HOURS						0.0 hr			
	START-UP						0.57 hr			
	SHUT-DOWN						0.59 hr			
	PLANT PERFORMANCE						88.9%			
	PRODUCTIVITY						88.9%			
TOTAL SOIL PROCE	ESSING RECORDS (2-SI	EC and 20-SE	C)				1,960			
	RDS (Test, calibrat						11			
20-SEC PF	ROCESS RECORDS					1,840				
	TOTAL SORT						MD>0 & MND=0			
	NO SORT					-	7 AD=0 & MD=0 &			
	SOME SORT					92	AD>0&0 <md<mn< td=""><td>M&gt;DNM&amp;xamC</td><td>INDmax</td><td></td></md<mn<>	M>DNM&xamC	INDmax	
	UNEXPLAINED RECORDS	s				C	)			
	0 <ad<1kbq &="" md="">0</ad<1kbq>	0						UNEXPLAI	N	PAUSE
	AD=0 &	MD 1						TIME		TIME
	AD<0 &	MD 0						13:01:33	3	12:54
	ACT_P <5 kBq	13	10.8	<b>%</b>						

File S2JA0802.WR1

Printed on 08/03/93 at 08:17:17 AM

1

18,400

۷.	-356 60	DAI PERIODS				10,400	,				
		2-SEC RECORD	S WITH S	ORTS		120	O (ACT_P	>0 kBq)			
		2-SEC RECORD	S WITH P	OSITIVES	IN >1 DE	TECTO	₹				
		2	DETECTO	RS	32		80.0%				
		3	DETECTO	RS	4		10.0%				
		4	DETECTO	RS	2		5.0%				
		5	DETECTO	RS	2		5.0%				
		6	DETECTO	RS	0		0.0%				
		7	DETECTO	RS	0		0.0%				
		8	DETECTO	RS	0		0.0%				
		TOTAL				40	)				
		NET 2-SEC RE	CORDS WI	TH SORTS		80	)				
		2-SEC PERIOD	S WITH N	O SORTS		18,320	}				
		AVG TIME BET	WEEN 2-S	EC SORTS		460.0	) sec				
1-GATE S	ORTS	60	ACT_ND	NUMBER	SPEC_A			ACT_P	SORT	FREQ%	ACT_P
DETECTR	SORTS	FREQ%	(Bq)	(#)	(Bq/kg)			(Bq)	(#)		(kBq)
1	1	1.7%	-14000	0	-240			4000	5	4.2%	4
2	5	8.3%	-12000	1	-206			8000	31	25.8%	8
3	13	21.7%	-10000	2	-172			12000	14	11.7%	12
4	13	21.7%	-8000	0	-137			16000	11	9.2%	16
5	14	23.3%	-6000	9	-103		;	20000	8	6.7%	20
6	7	11.7%	-4000	40	-69		;	24000	2	1.7%	24
7	6	10.0%	-2000	128	-34		;	28000	6	5.0%	28
8	1	1.7%	0	315	0		:	32000	4	3.3%	32
TOTAL	60		2000	484	34		:	36000	2	1.7%	36
			4000	459	69			40000	3	2.5%	40
2-GATE SC	ORTS	60	6000	261	103		•	44000	2	1.7%	44
DETECTR	SORTS	FREQ%	8000	116	137			48000	6	5.0%	48
8			10000	29	172			52000	0	0.0%	52
9	3	5.0%	12000	4	206		!	56000	4	3.3%	56
10	7	11.7%	14000	1	240			50000	3	2.5%	60
11	15	25.0%	16000	1	274		(	54000	3	2.5%	64
12	14	23.3%	18000	1	309		(	58000	1	0.8%	68
13	9	15.0%	20000	0	343		7	72000	2	1.7%	72
14	7	11.7%	22000	0	377		7	76000	3	2.5%	76
15	5	8.3%	24000	0	412		1	30000	2	1.7%	80
TOTAL	60		26000	0	446			34000	0	0.0%	84
			>28000	0	0		>8	34000	8	6.7%	>84
			TOTAL	1851			1	TOTAL	120		
SUMMARY T	OTALS										
но	T PARTI	CLE EVENTS	109		SORTS BY	ONE G	ATE ONLY	1	60		
MU	LTIPART	ICLE EVENTS	65		SORTS BY	TWO G	ATES		60		
DI	STRIBUT	ED EVENTS	84								

### REC CODE EXPLANATION

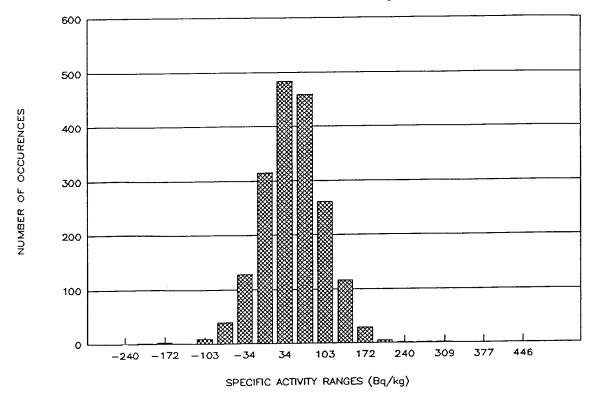
1.00 Source check (Soil on belt)

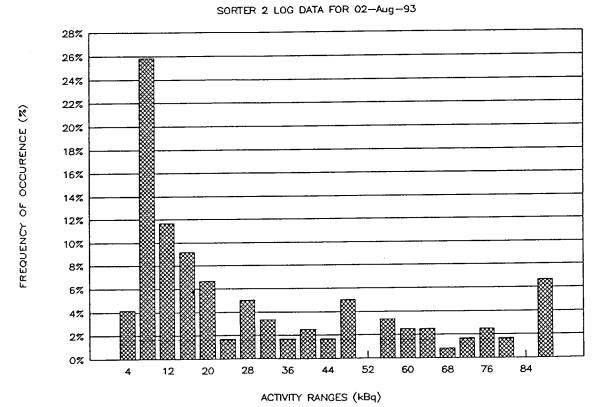
2.00 Empty belt

2-SEC COUNT PERIODS

3.00 Test (No process soil)

SORTER 2 LOG DATA FOR 02-Aug-93





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